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SUPERINTENDENTS DISCUSS COAST MILL PROBLEMS

Pacific Coast pulp and paper mill superintendent met in convention again June 1 and 2 at Portland, Ore., turning the second milestone of its short but honorable career, which started with the Longview meeting last December. It was a coastwise meeting in the true sense of the word, with members attending from mills all the way from British Columbia to Southern California.

Superintendents arriving Friday afternoon found plenty to do in advance of the official opening, activities being centered chiefly on the golf links. By 8:30 that evening the lobby of the Multnomah Hotel was buzzing with paper talk, with a large crowd of both men and ladies waiting for the convention to open.

The official gathering of the evening was in the Junior Ball Room, where all essentials for entertainment waited—beer, food and music. Labelled on the program as a Beer Party, it might better have been called a song fest, the vocal efforts flowing even more freely than the beer, although perhaps not quite so smoothly. Dancing and singing continued until the very successful party adjourned about midnight.

Saturday, morning and afternoon, was occupied by the business meeting, with H. Robert Heuer, division chairman, in charge. The opening gun was fired by C. R. P. Cash of the St. Helens Pulp & Paper Co., who presented a paper, "Freeness of Finished Paper as an Aid in Machine Control," prepared in collaboration with Uno Fryklund of the same company. This appears in full elsewhere in this issue.

G. J. ARMBRUSTER
First Vice-Chairman

V. L. Tipka, member of the American Chemical Society, and formerly with the Crown Willamette Paper Co., came next on the program with his presentation of "Establishing Specifications for Paper Machine Control." His paper discussed the production of uniform quality paper through proper standardization of pulp and paper machine conditions. It will probably be published in a later issue of this journal.

"Troubles of a Printer" were discussed by A. Blankholm of James Kerns & Abbott Co., Portland, as the concluding feature of the morning meeting. He explained the routing of paper through the print shop, and the method of handling, checking, inspecting, etc. Mr. Blankholm spoke particularly of the advantages of skid paper over that packed in boxes. "This type of shipment is of great advantage to the printer, and a real boon from the paper makers," he said.

He advised as little hand handling of paper as possible as an aid in obtaining clean print jobs, and suggested also a study of moisture con-

trol of the sheet during transportation. Several paper makers pointed out that air conditioning in the shop was the proper remedy for improper moisture content when printing.

Other factors mentioned by Mr. Blankholm were variations in the surface of papers, such as hard or soft spots, rough or smooth sheets, etc., the prevalence of curled sheets in some shipments; the handicap of difference between the two sides of a sheet of paper.

His talk brought forth much discussion by the superintendents, some in defense of paper making methods, others in criticism of printers' demands. The open forum on the subject served to bring better understanding of the printer's problem to the paper makers, and at least one printer had a clearer insight into the difficulties of making paper to meet every need.

The noon luncheon following was attended by nearly 100 conventionites, and was featured by the introduction of association officers and by singing led by H. A. "Gob" Des Marais.

Carl G. Johnson of the General Paint Corporation, Portland, started off the afternoon meeting again, with his discussion of "Paint Protection for Pulp and Paper Mills," which is published in this issue.

The Question Box came next, and consumed the remainder of the afternoon. Superintendent exchanged ideas on making paper and pulp, and numerous wordy contests resulted. Everything from stainless steel to college educations for paper makers was covered.

A pre-dinner party started at six o'clock, getting the evening off to a lively start. Following this was the dinner dance with plenty of sparkling entertainment.

H. C. REIMER
Third Vice-Chairman

THOSE REGISTERED

Fred Alsop, Van Waters & Rogers, Portland; Niles Anderson, Columbia River Paper Mills, Vancouver; Peter Anderson, Rainier Pulp & Paper Co., Shelton; G. J. Armbruster, Sound View Pulp Co., Everett.

Thomas J. Bannon, Western Gear Works, Seattle; T. H. Beaume, Fibreboard Products, Inc., Port Angeles; S. W. Blanchard, Crown Willamette Paper Co., West Linn; J. C. Bowman, S. K. F. Industries, Portland; Carl Braun, Hawley Pulp & Paper Co., Oregon City; G. S. Brazeau, Weyerhaeuser Timber Co., Longview; J. E. Brown, Pacific Pulp & Paper Industry, Seattle.

H. A. DES MARAIS
Secretary

R. S. Cary, National Aniline & Chemical Co., Portland; C. R. P. Cash, St. Helens Pulp & Paper Co., St. Helens; J. V. B. Cox, Paper Makers Chemical, Portland.

H. A. Des Marias, General Dye Stuff Co., Portland; E. G. Drew, J. O. Ross Engineering Co., Portland; A. C. Dunham, Lockport Felt Co., Portland; D. E. Dupuis, Crown Willamette Paper Co., Lebanon.

Carl Fahlstrom, Longview Fibre Co., Longview; W. E. Foren, Crown Willamette Paper Co., Camas; Charles Frampton, California Fruit Wrapping Mills, Pomona; Uno Fryklund, St. Helens Pulp & Paper Co., St. Helens.

Ben Gellenbeck, Keystone Lubricating Co., Portland; J. E. Goodwillie, Beloit Iron Works, Beloit, Wis.; A. Gustin, Rainier Pulp & Paper Co., Shelton.

FERDINAND SCHMITZ
Second Vice-Chairman

Kenneth B. Hall, Huntington Rubber Mills, Portland; John E. Hassler, Simonds - Worden - White Co., Portland; Harold Hauff, Weyerhaeuser Timber Co., Longview; Walter Hodges, Appleton Wire Works, Portland; A. H. Hooker, Hooker Electrochemical Co., Tacoma; Bob Heuer, Weyerhaeuser Timber Co., Longview.

Jack Johnson, Hawley Pulp & Paper Co., Oregon City.

J. D. Kaster, Oregon Pulp & Paper Co., Salem; W. A. Kelly, Pulp & Paper Mill Supplies, Portland; E. E. Kertz, Simonds-Worden-White Co., Portland; C. E. Kinney, Bagley & Sewall Co., Watertown, N. Y.

A. H. Lundberg, G. D. Jenssen Co., Seattle.

William C. Marshall, Heller-Merz Co., Portland; Bill McGinnis, Pacific Coast Supply Co., Portland; John McVicker, Standard Oil Co., Portland; George S. Meddis, Orr Felt & Blanket Co., San Francisco; Ned Menzies, W. S. Tyler Co., Seattle; G. F. Mitchell, Hesse-Ersted Iron Works, Portland.

R. C. Onkels, Westminster Paper Co. Ltd., New Westminster, B. C..

Thomas Parks, Hawley Pulp & Paper Co., Oregon City; R. T. Petrie, Bagley & Sewall Co., Portland; Bill Prier, Oregon Brass Works, Portland.

Al Quinn, Stebbins Engineering & Manufacturing Co., Seattle.

James Ramsey, Everett Pulp & Paper Co., Everett; S. C. Rasmussen, General Paint Corporation, Portland; H. C. Reimer, Hawley Pulp & Paper Co., Oregon City; Ralph Reid,

Spaulding Pulp & Paper Co., Newberg; H. H. Richmond, Electric Steel Foundry Co., Portland.

S. H. Salmonson, Crown Willatette Paper Co., Camas; B. W. Sawyer, Foxboro Co., Portland; John Schibel, Log De-Barking & Sizing Corporation, Portland; F. Schmitz, Rainier Pulp & Paper Co., Shelton; Harlan Scott, Pacific Pulp & Paper Industry, Seattle; T. M. Shields, Simonds Saw & Steel Co., Seattle; A. P. Sievers, Longview Fibre Co., Longview; R. W. Simeral, Fir Tex Insulating Board Co., St. Helens; C. D. Smith, St. Helens Pulp & Paper Co., St. Helens; L. K. Smith, Pacific Pulp & Paper Industry, Seattle; Ray Smythe, Pulp & Paper Mill Supplies, Portland.

Earl Thompson, Great Western Electrochemical Co., Seattle.

P. B. Varney, Weyerhaeuser Timber Co., Longview; H. A. Vernet, Staley Sales Corporation, Decatur, Illinois; A. S. Viger, Rainier Pulp & Paper Co., Shelton.

T. J. Waltman, Ohio Knife Co., Portland; E. Weber, Oregon Pulp & Paper Co., Salem; Bill Williamson, Shuler & Benninghofen, Portland; Z. A. Wise, Griffith Rubber Mills, Portland.

A. Zimmerman, Pacific Straw Paper & Board Co., Longview.

FREENESS OF FINISHED PAPER AS AN AID IN MACHINE CONTROL*

By UNO G. FRYKLUND and C. R. P. CASH†

The necessity for controlling the freeness of stock in preparation for the paper machine has long been universally recognized. In many paper mills, the beater room operation is checked by making periodical freeness tests on the stock during its progress to the machine. The customary technic for obtaining a definite quantity of stock for the test is to use a centrifuge and centrifuge factor. This centrifuge factor presents a problem in that it changes as the stock becomes slower and also its reliability decreases as the freeness decreases.

On the beater stock a reliable centrifuge factor can be maintained, but on jordaned stock only by a very careful laboratory method is a centrifuge factor feasible, and then it should be confirmed by moisture tests.

Since our beating operation is well standardized and controlled to produce uniform stock for the various grades, the variation in freeness of the stock to meet the immediate demands of the machine operation is obtained at the jordans. This, of course, is ordinary paper mill practice. However, we felt that if we could devise a rapid method for determining the freeness of the stock flowing to the machine, that the machine tender would quickly find the optimum stock condition for the grade of paper he desired to produce.

After discouraging results from the centrifuge method, it occurred to us that we might disintegrate a weighed amount of finished paper and make a freeness test on that. Preliminary experiments were so encouraging that we designed a machine to disintegrate the paper under standard conditions. With this machine, it was found possible to get almost exact checks on freeness tests made on the same sample of paper.

The Disintegrating Equipment Designed by the Authors.

The disintegrating machine must fulfill the following conditions:

(1) Defiber the paper with a minimum of beating or cutting action.

(2) Defiber the paper in a short time; not to exceed five minutes.

(3) The slowing of the stock due to whipping by the disintegrator must be constant for any one grade of paper.

The foregoing conditions were met by subjecting a definite weight of paper, namely 2.8 grams, to the action of a constant speed propeller blade for a fixed time with a definite quantity of water 250 c.c. being found suitable for our machine. Temperature is also a variable, but since we have a fairly uniform temperature of tap water we disregard this.

Our disintegrator consists of a serrated propeller blade, 3 inches in diameter, directly connected to a 1/6th H.P., 3,600 R.P.M. vertical motor. The motor with shaft and propeller attached, is mounted on a frame so that a can 3½ inches in diameter by 9 inches high, can be slid up over the propeller against a plate fastened to the motor and through which the shaft extends.

This plate has a ring for the can to slip on and acts as a lid for the can. A soft rubber gasket held in place by a piece of sheet copper keeps the contents of the can from being thrown out. The can is held tightly against the gasket by a table

*Presented at the Spring meeting of the Pacific Coast Section, American Pulp & Paper Mill Superintendents' Association, Portland, Oregon, June 1-2, 1934.

†St. Helens Pulp & Paper Co.

hinged to the frame and held by a notched bracket. This bracket is released with a small lever, causing the table to drop when it is desired to remove the can. The ring on the plate serving as a lid centers the can around the propeller. The propeller extends to a half an inch from the bottom of the can.

The motor is connected with an interval timer to give a fixed beating time.

The design of the propeller is not of particular importance, the most important feature being that it has the high peripheral speed found necessary.

It is very important to use the right quantity of water; too little will cause overbeating of the sample and too much will lengthen the time required for disintegration.

The procedure is to weigh 2.8 grams of paper on a Torsion balance. Tear this into pieces and place in the can of the disintegrator with 250 c.c. of water. This is then put in place in the machine and beaten for a period of two or five minutes, depending on the grade of paper. As previously mentioned, the time is controlled by an inexpensive interval timer.

After the motor stops the can containing the sample is removed and a second can containing about 250 c.c. water is placed in the machine and the motor given a brief spin. This washes off any fiber left on the propeller.

The contents of the two cans are combined, made up to one liter and the freeness run in the usual manner.

The total time required for the test is from five to eight minutes.

The Practical Standpoint

Before discussing what this test really represents, let us consider it from a practical standpoint. Since our machine tenders have used it they have found it very helpful in that they have a numerical expression of the quality of stock running on the machine. This naturally means closer control of the jordans. We have found in general that for any run, the paper when giving the most satisfactory test will have a uniform freeness test.

Now as to what a freeness test on finished paper really represents. Without becoming too technical, what little work we have already done would indicate that it is a measure of the slowing of the stock due to shortening, rather than hydration. This would be accounted for by the fact that most of the hydration is removed from the stock by drying and only very slightly returned in the disintegrator.

Pulp hydrated with a minimum of shortening by beating for a long period in a small beater without contact between roll and bedplate, dried, then disintegrated and its freeness taken, was found to be almost as free as the original sample.

We believe that a relation can be established between a freeness test on wet stock and on the finished paper, or a dried sample, that will be indicative of both hydration and length of fiber. If subsequent work substantiates this opinion, then a most valuable control method can be established.

It is to be regretted that at this time we are not in a position to offer complete data covering the questions brought up in this paper. We do not suggest this test as a substitute for freeness tests already being made in the regular way in beater room operation, rather we believe the test has possibilities of giving closer control of stock preparation right up to the head-box of the paper machine.

GRAYS HARBOR MILL TO INSTALL ANOTHER DIGESTER

The Grays Harbor Pulp & Paper Co. has announced the immediate installation of an additional digester in their pulp mill at Hoquiam, Wash., together with the usual auxiliary equipment to handle the augmented output. Accessories will consist of pumps, blending tank, washer, additional screening capacity, etc.

The purpose of the expansion program is, it is stated, to balance the entire operation so that the pulp machine may operate at full capacity when desired. The plant as originally built had three digesters and produced a total of 150 tons of bleached sulphite pulp per day. When the Grays Harbor Corporation built the adjoining paper mill and began taking slush pulp for its production, operations were thrown out of balance and the pulp machine did not operate at capacity.

The new digester will permit the balanced operation of the entire unit, and will increase total production by about 15,000 tons per year. The entire installation will cost approximately $100,000.

NEW WOOD MILL UNDER CONSTRUCTION

The Washington Pulp & Paper Corpn., Port Angeles, Wash., is now building a new wood mill to serve the big newsprint plant. A complete new unit is being built to replace the former cut-up plant. It is expected to be ready for operation in October.

Major equipment will consist of a 10-foot bandsaw, an edger and two big drum barkers. No new chippers are to be installed, it is said.

NEGOTIATIONS REPORTED ON FOR MILL NEAR PRINCE RUPERT

E. L. Buckley and Olier Besner of Vancouver, B. C., arrived in Prince Rupert, B. C., early in June in regard to matters pertaining to the proposed pulp mill there, and to arrange for the taking of soundings of the site at Seal Cove.

Mr. Buckley is quoted as saying that because of improved conditions generally, prospects for completion of the project are much brighter, and that it seemed safe to say that the pulp mill would definitely be built at Prince Rupert.

The trip to Prince Rupert took place shortly after Mr. Buckley had returned to the Coast after a trip to St. Paul and Minneapolis in connection with the project.

DENNIS COUSINS AT OCEAN FALLS

Dennis Cousins has resigned as superintendent of the Tacoma, Wash., kraft mill of the St. Regis Kraft Co. and is now at Ocean Falls, B. C., doing some special work in the kraft mill of Pacific Mills, Ltd.

It is expected that Mr. Cousins will return to the States in July when his work in British Columbia is completed.

HEARING ON MODIFIED CODE TO BE HELD JUNE 29

A public hearing will be held June 29 in the Hall of Nations of the Washington Hotel, Washington, D. C., on the proposed modification of the code for the pulp and paper industry.

On the same day, and at the same place, W. W. Picard, deputy administrator, will hold a hearing on the proposed modification of the code for the paperboard industry.

CODE FOR THE PULPWOOD INDUSTRY PROPOSED

Suggested Code Meets Opposition From Some Producers; Lumber Code Authority Objects to Lack of Uniformity in Wages, Protection and Conservation Features

A proposed code for the pulpwood industry was presented before the NRA in Washington, D. C., June 5 by John H. Hinman, vice president of the International Paper Co. and president of the American Pulpwood Association, and Horace R. Lamb, counsel for the association, for consideration by the administration.

At the hearing numerous pulpwood producers and users spoke in favor of the suggested code, but there was also considerable opposition expressed against certain features, particularly relating to wages and hours, and to provisions for protection and conservation of the forest resources, which lacked uniformity with provisions of similar nature already effective under the Lumber Code.

Five Regions Set Up

The code divides the country into five regions: the Northeastern Region which includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania and New Jersey; the Lake States Region which includes Wisconsin, Minnesota and Michigan; the Appalachian Region which includes West Virginia, Tennessee, Kentucky, Delaware and Maryland; the Southern Region which includes Florida, North Carolina, Virginia, South Carolina, Georgia, Alabama, Louisiana, Arkansas, Mississippi and Texas; the West Coast Region which includes Washington, Oregon, California, Idaho and Colorado.

Minimum hourly wages are set as follows: Northeastern Region, 25 cents; Appalachian Region, 25 cents; Southern Region, 20 cents; Lake States Region, 25 cents; West Coast Region, 35 cents; except where state law prescribes a higher minimum wage.

Labor provisions call for a maximum of 40 hours work per week for employees with the exception of supervisors, clerks, cooks, teamsters, stablemen, blacksmiths, road builders, camp builders, saw filers, repair men, drivers, helpers, fellers, cutters, peelers, sawers, yarders, haulers, workers engaged in temporary emergency work, and employees engaged in seasonal operations.

Under the head of conservation it is provided that the Code Authority shall formulate rules of forest practice to safeguard timber and young stock against fire and other injury, to provide for future crops and to encourage sustained forest management.

In presenting the code, Mr. Lamb said that proposals to amend the lumber code to include pulpwood operations were not satisfactory to the American Pulpwood Association. President Hinman stated that the association has 20 members, who would market about 2,300,000 cords in 1934, or about 70 per cent of the industry which could be organized. Of the remainder of the approximate total of 5,250,000 cords expected to be produced in the United States this year, 2,250,000 cords would come from farmers and small timber operators, and about 800,000 cords from lumber operators, he said.

Coast Men Attend

A number of pulp and paper men, including D. S. Denman of the Crown Willamette Paper Co., Seattle, and Donald Lyle of Hoquiam, Wash., spoke in favor of the adoption of the code.

Objections were registered by Thomas Allen of the Great Northern Paper Co., Millinocket, Me., who declared it would be better to operate under the lumber code, that some of the members of the pulpwood association were pulpwood buyers but not producers, and that he saw no reason for any separate code.

John L. Donovan of the NRA Labor Advisory Board declared that the low wages proposed were not acceptable, especially when compared to the wages of the lumber industry or of the pulp and paper industry.

At the time of the hearing the Lumber Code Authority filed with the administration a letter presenting their objections to certan provisions of the code. It was declared that the proposed code covered "materials and operations now subject to the Lumber and Timber Products Code and now forming an integral and inseparable part of the lumber and timber products industries."

Separate Code Opposed

"Hemlock, Spruce and Fir logs produced in the Douglas Fir region of Washington and Oregon constitute the bulk of the raw materials used in that section for the manufacture of pulp which is finally converted into paper, paper board and other pulp products. These logs are produced in logging operations which generally have for their major purpose the securing of saw logs, and even in logging operations primarily for logs used in the production of pulp, saw logs constitute an important portion of the total output. All logging operations in the Pacific Northwest are now subject to the jurisdiction of the Lumber and Timber Products Code. A separation such as is proposed in the pulpwood code would, in our opinion, be unwise and impractical.

"The proposed definition would also include chips, slabs and other sawmill waste, as well as tops and other waste incident to logging operations for saw logs. The same comments in respect of the separation of these incidental products from the Lumber Code apply."

It was suggested that the code be revised to exempt from it materials and operations now subject to the Lumber Code. It was also pointed out that the various regions of production omitted vast areas of forest land which are potential sources of

pulpwood supply, and recommendations were made that the regions be changed to include all states or that new regions be added, and that the regions be made to conform to the divisions of the lumber industry.

Concerning wages and hours of labor, the lumbermen said:

"We desire to point out that Article V—Hours of Labor—contains so many exceptions that the result is likely to be little or no limitation of the hours of labor. This is a matter of considerable concern to the lumber and timber products industries under whose code the hours of labor are rigidly limited, with minor exceptions, to forty hours per week. There is considerable overlapping and considerable coordination in the production of wood pulp and the production of logs, posts, piling and other products subject to the Lumber and Timber Products Code. The greater freedom provided in the matter of hours and labor in the proposed pulpwood code would be most unfair and inequitable to operations now under the Lumber and Timber Products Code. It would cause confusion and resentment on the part of persons subject to our code and would be a deliberate invitation to evasion and noncompliance. In our opinion it is essential that there be uniformity in the provisions of codes so closely related as pulpwood and lumber and timber products, especially on the labor provisions.

Wages Believed Too Low

"Article VI—Wages: Pulpwood production is in many instances carried on at the same time and the same place as the production of products now under the Lumber and Timber Products Code. In some cases the same crew of workmen is used and in others they work practically side by side. As to common labor, there is no material difference in the character of work performed. The proposed minimum wages under the pulpwood code are considerably below the wages now being paid by persons subject to the Lumber and Timber Products Code and will cause confusion and resentment. We, therefore, recommend that the minimum woods wages, applying to the Lumber Code, be substituted for the proposed wage scale."

Maintaining that the article dealing with conservation was weak and might be ineffective, the Lumber Code Authority declared that forest conservation and protection for pulpwood could not logically be separated from the general forest practice rules, and recommended that the field enforcement of forest practice rules under the pulpwood code be combined with existing agencies of the lumber code.

Conservation Work Under Way

In the meantime the work of forest conservation called for under the lumber code was getting under way in the forests of the West.

Final sanction of the Rules of Forest Practice which makes effective the "Forest Conservation Code," recently approved by President Roosevelt as Schedule "C" of the Lumber Code, has been given by the Lumber Code Authority. These rules, effective June 1st, apply in their entirety to all commercial timber cutting operations hereafter undertaken on private land and in their fire protection aspect will apply immediately to the 270,000,000 acres of industrial forest and 127,000,000 acres of farm forests, a total of nearly 400,000,000 acres or 625,000 square miles—more than one-fifth of the country's land area.

Application of the rules on the Pacific Coast is to be directed by a committee created by action of the Pacific Northwest Loggers Association and the West Coast Lumbermen's Association. First attention will be given to strict enforcement of the rules applying to fire protection measures. The next step in the committee's program calls for providing as much assistance as possible from experienced logging engineers to operators requiring aid in working out the best means of applying the other forest practice rules to their operations.

Fire Protection Rules

The rules are divided into nine sections. Rules in the first division deal with fire protection during and immediately following logging. Under these rule every power machine operating .n the woods must be provided with a satisfactory device for arresting sparks. Ash pans of locomotives must be equipped with adequate devices to prevent escape of live coals or fire, and ashes must be dumped in certain designated safe paces. Other fire protection requirements call for maintaining a communication system between the main camps and the woods operations, patroling movements of locomotives operating through hazardous areas during fire weather, keeping tools, water, pumps, and hose at strategic points, restricting the use of fuse in blasting, confining smoking to safe and especially prepared places, falling of dead trees, disposal of slashings and other inflammable debris and organizing in advance of the fire season a systematic fire protection plan suitable to the character and size of each individual operation.

The remaining divisions of the rules pertain to cooperation in protection against fire, insects and diseases; conservation of immature trees and young growth by protecting them as far as practicable from logging damage; providing for restocking the land after cutting by following a definite plan; partial or selective logging, leases and timber cutting right, industrial management plans, sustained yield management and clearing for agricultural or other uses. All rules look toward introduction of selective logging and eventual sustained yield management.

Russell Mills, a Northwest logging engineer of long experience with forestry training, has been engaged to help develop and carry out the program. He will have a staff of assistants, who also will be experienced logging engineers as well as foresters.

Three Coast Offices

Mr. Mills and his aides will work out of three divisional offices. The headquarters office is located in Seattle. Men from this office will cover the area including all the southern portion of Washington, from Grays Harbor and Willapa Harbor to the northern state line. A second office has been established in Portland to supervise the Northern Oregon and Columbia River district of Washington. A third office is located in Eugene, Oregon, to cover the district extending from near Albany to the southern boundary of the Douglas fir region in Jackson, Josephine and Curry counties.

The Rules of Forest Practice include practically all the fire protection provisions already in force under the state laws of Oregon and Washington, and a number of additional protective requirements. The forest departments of the two states will cooperate with the code committee in obtaining compliance with the protective rules not already covered specifically by state laws. Authority is granted under the code rules for closing down all the operations or individual operations in a district where an abnormal fire hazard exists.

TAPPI PLANS BIG SHOW FOR INTERNATIONAL CONVENTION

Committees arranging details of the forthcoming International Convention of TAPPI have embarked upon an ambitious program that promises much to every pulp and paper maker who attends the great meeting this fall. As previously announced, the dates for the gathering are September 10, 11, 12 and 13, headquarters to be at the Multnomah Hotel, Portland, Ore.

With 100 positive reservations already made by eastern members, an exceptionally large attendance is assured. It is anticipated that at least 400 to 500 will be on hand for this distinctive meeting, the first of its kind held on the Pacific Coast.

Business and Pleasure Combined

Many TAPPI members are planning to make it a combination business and pleasure trip, or will schedule their vacations so that they may make the trip to the Coast. Western members are being urged to do the same in order that a complete and representative body of men from western mills will be on hand throughout the four days of convention to assist in the reception and entertainment of visitors from the East.

It is expected that numerous men will take the occasion to drive out, particularly from the middle-west region. For their convenience the Coast TAPPI committees are preparing an automobile map especially designed for those who will drive out, containing much interesting and valuable information for those motorists.

Plans are being completed for the bringing of two special trains, and the Transportation Committee has made an excellent showing so far, with assurances of at least 100 at this early date. These trains will have every convenience for the delegates, including maid and barber service, club room, piano, radio and stenographers so that busy executives may keep in close touch with their operations if they desire to do so.

The specials are going to leave Chicago at 10:30 p. m. on September 5, and will stop at Mandan, N. D. for a colorful ceremonial by the Indians. The train will arrive at Gardiner, Mont. at 9:00 a. m. September 7, and delegates will spend the day and part of the evening at Yellowstone Park. Leaving Yellowstone, they will reach Spokane in time for a dinner dance at the famed Davenport Hotel the night of September 8, then going on so as to reach Portland Sunday morning, September 9.

H. ROBERT HEUER
General Chairman

At the dinner dance in the Davenport Hotel, Spokane, there will be a drawing for a special ten day cruise to Alaska over the Alaska Steamship Company's route. Every passenger on the special trains will be given a number, and the lucky one can take an additional ten days to see the beautiful Alaskan country without cost.

When the train arrives in Portland there will be some unique features to welcome the delegates at the station, which should lastingly impress them with the West.

Some of the attractions of Portland and vicinity are set forth in a pamphlet being sent out by the publicity committee. This particular folder has a map showing the various roads from the East, as well as those up and down the Coast.

The railroads have also sent out some very attractive folders which should persuade the most resistant TAPPI member to make the trip to Portland.

Plans for the business sessions are well advanced, and a most worth while program is being arranged. Some of the activities will be outside the usual hotel convention rooms, trips into the tall timber being scheduled. TAPPI members will be entertained at Longview and then taken aboard the "Paul Bunyan Express", a rubberneck train made from flat cars, to see how western logs are brought in. Loud speakers will be placed on each car, and cappable loggers will explain the logging "shows" inspected.

Trip to Spirit Lake

An added attraction will be the trip up the Toutle River to beautiful Spirit Lake near the foot of majestic Mt. St. Helens. Off the beaten track, Spirit Lake has probably been visited by but a small number of western TAPPI men, so the trip will be a treat to Coast members as well as those from the East.

Within easy striking distance of Portland are many pulp and paper making centers, where the visitors will be welcomed for plant inspections. Experts agree that the western mills are the most modern and best designed in the country, and visits to them will be both interesting and educational.

The famous Pendleton Round-Up is scheduled for September 13, 14 and 15, and stopovers can be arranged for those who desire to attend. The Round-Up is a real western show, one of the best known of its kind in the nation, and is packed full of thrills with bronco riding, steer roping, stagecoach races bulldogging, pageants of Indians, cowboys and pioneers, which most paper makers have seen only in news reels.

The big TAPPI show is being ably publicized by folders, letters, newspaper and magazine stories, let-

ter stickers, etc. Fancy stickers to be attached to letters sent to pulp and paper people are now available. The various manufacturers and pulp and paper ocmpanies may use these on their stationery to call the attention of their correspondents to the International Convention. Anyone who wants these may get them by sending their name and the number they can use to advantage, to Ray Smythe, 301 Park Bldg., Portland, Ore.

Readers who know of anyone coming from long distances, or who know of any unusual news items of interest to the delegates or convention committee, are urged to communicate such information to Mr. Smythe, the Publicity Chairman.

Officers and Committee Chairman of the Pacific Coast Section are as follows: Lawrence Killam, chairman, B. C. Pulp & Paper Co., Vancouver, B. C.; Myron W. Black, vice chairman, Inland Empire Paper Co., Millwood, Wash.; Albert S. Quinn, secretary-treasurer, 709 Textile Tower, Seattle, Wash. Chairmen of committees: General chairman, H. Robert Heuer, Weyerhaeuser Timber Co., Longview, Wash.; administration, Walter S. Hodges, 2860 N.W. Front Ave., Portland, Oregon; arrangements, John E. Hassler, 220 S.W. First Ave., Portland, Oregon; reception, H. A. Des Marais, Terminal Sales Bldg., Portland, Ore.; mill visits, A. G. Natwick, care Crown Willamette Paper Co., Camas, Wash.

Program, Raymond S. Hatch, Weyerhaeuser Timber Co., Longview, Wash.; entertainment, Fred Alsop, 646 N. Thompson St., Portland, Oregon; golf and recreation, S. C. Rasmussen, 838 S.W. Second Ave., Portland, Oregon; railroad and Transportation, G. S. Brazeau (chrmn), 307 N. Michigan Ave., Chicago, Ill.; C. H. Champion, R. T. Vanderbilt Co., New York City, 230 Park Ave., N. Y.; H. J. Skinner, Skinner & Sherman, Boston, Mass., 246 Stuart St.; Ray Smythe (western chrmn), 301 Park Building, Portland, Oregon; Miss Helen U. Kiely, American Writing Paper Co., Holyoke, Mass.; Allen Abrams, Marathon Paper Mills Co., Rothschild, Wis.; publicity, Ray Smythe, 301 Park Building, Portland, Oregon; ladies' activities, Mrs. A. G. Natwick, Camas, Washington.

STABILIZED STAINLESS STEEL

And Its Application to the Pulp and Paper Industry*

By C. S. CONRAD and M. H. FREEDMAN†

In our modern industrial life there is always considerable striving to improve not only the product, but the method of manufacture, and the pulp industry, long confronted with severe equipment corrosion problems, is rapidly recognizing the distinct advantages offered by the use of the new stainless steels.

The inherent advantages of certain properties of iron and steel over other metals have long been realized, but the tendency of the commonly used grades to rust or corrode under severe conditions is, however, a feature that has been difficult to overcome except by radical changes in composition—so that the introduction of steels that will withstand corrosion and still retain all the desirable qualities is indeed a contributiton to the industry.

The various stainless alloys of low carbon content can be generally classified into two series; namely, one with chromium only as the alloying element, and the other containing chromium and nickel. The first series can be further subdivided into three classes: steel containing 11 to 15 per cent, 16 to 18 per cent, and 25 to 30 per cent chromium. The second series usually is divided into two classes: steel containing 18 per cent chromium and 8 per cent nickel, and 25 per cent chromium and 12 per cent nickel.

Why Nickel Is Used

Aside from chromium, nickel is by far the most important alloying element, changing the structural characteristics of the alloy, increasing the resistance to corrosion, and improving the ductility and ease of fabrication. For this reason the alloys of the 18 per cent chromium and 8 per cent nickel type account for a large portion of all the stainless steel now manufactured. The addition of other elements in small amount, for specific types of applications, may in some cases improve structural characteristics and corrosion resistance, although at the present time there are many conflicting claims, many of which cannot be substantiated.

It is a difficult problem to estimate the advantage of chrome nickel steels that have been introduced into the established sulphite pulp industry over a period of approximately the last six years. From sources of information that are made available it is apparent that many 18-8 installations are proving entirely satisfactory, easily justifying their initial cost; while in others signs of, or complete failures have taken place. It is also apparent that the failures or partial failures cannot be traced to the same conditions and that similar equipment in different mills does not always necessarily show the same results.

As pertaining to some instances, it is a well known fact that austenitic steels of the chrome nickel type, when heated in or to a temperature range of approximately 900 to 1400 degrees F. for even short periods of time, become subject to intergranular type of attack. This attack, caused by the formation of chromium carbides, depletes the chromium content in the vicinity of the grain boundaries of the metal. These carbides impoverish the grains which they surround of chromium and it is necessary to heat treat the alloy from an approximate 1900-degree temperature range, following with a rapid quench, if the carbides are to be placed in solution, rendering the metal most resistant to sulphite corrosion.

This intergranular corrosion is not to be confused with surface corro-

*Presented at the Spring meeting of the Pacific Section of TAPPI, Seattle, Wash., April 6-7, 1934.

†Columbia Steel Co.

sion, as the former may bring about premature failure with no outward signs of general attack. Lowering the carbon content, which naturally limits carbide formation, offers a partial solution. However, on relief lines welding in place seems to be the accepted practice, making impossible further heat treatment after installation.

The introduction of 18-8 or 25-12 with a carbide controlling element properly processed, has practically solved the problem of intergranular attack. The addition of titanium, which has strong carbide forming tendencies, ties up the carbon, preventing chromium carbide formation and guarding against impoverishment of the grain. The titanium simply takes advantage of the fact that carbides when precipitated have a greater affinity for titanium than for chromium, hence titanium carbides are formed, and the surrounding grains are not robbed of their chromium content.

Heat Treatment Necessary

It was assumed by some technologists that the maximum resistance to intergranular corrosion could be obtained by simply adding the proper amount of titanium, but it has now been established that these steels, even when carrying sufficient titanium, should be subjected to a perfected stabilizing heat treatment, to insure tying up the carbon. This necessary heat treatment is performed on the stabilized alloy before shipment from the mills, thus insuring that when it is received it will be entirely satisfactory for use.

As in the other industries the choice of an alloy for each type of installation, in each individual mill, should rest on definite proven pilot tests, which is the common sense way to prove their suitability. Undoubtedly for certain specific applications where corrosion attack is especially severe, alloys of higher chromium or nickel content may be justified; but consideration must be given to their still higher cost, difficulty in procurement, along with the added higher fabrication cost—all or any of which may offset their advantages from a corrosion standpoint. It should be understood that increasing the chromium and nickel content also increases the carbon content of the alloy, which tends to aggravate the susceptibility of the metal to intergranular corrosion. Therefore the addition of a stabilizing element is even more necessary than in the low carbon 18-8.

Other factors affecting satisfactory installations of 18-8 which should be given consideration by the engineers and mill operating personnel are galvanic action, sulphuric or hydrochloric acid corrosion, excessive cold working of the metal without subsequent annealing, and heavy scale or lime coatings. The danger of galvanic action is always present when 18-8 is in contact with any non-ferrous or ferrous alloys. When dissimilar metals are in contact, suitable non-metallic gasket material should be used for insulating purposes; asbestos or asbestos and mica are probably the best known gasket materials that are now available for this purpose.

Avoid H_2SO_4 Conditions

As chrome nickel steels are unsuited for sulphuric acid conditions in very dilute concentrations, we can pass this by without further comment, unless to mention that where sulphite liquor is present, portions of equipment opened for inspection or cleaning should be thoroughly hosed with water, if possible, where there might be a tendency for sulphuric acid to form and harm the metal. The chrome nickel alloys are not immune to some attack by chlorine solutions. However, they are being used in some instances where apparently their comparative resistance, especially in cold solutions, justifies their use. Resistance to corrosion by some reagents may be considerably lessened by excessive cold working of the material and should be avoided where possible. However where cold working is necessary this should be followed by the proper heat treatment.

Some Successful Applications

Briefly reviewing some of the applications where the 18-8 alloy in the wrought form seems to justify their cost, we first mention relief lines, which in most cases have stood up remarkably well; such failures as have been reported apparently have been caused by the use of metal with too high carbon content, or improper heat treatment. The use of lapped or Van Stoned nipples made from stabilized alloy and properly heat treated after forming, and which can be welded to pipe sections in the field, makes an ideal type of installation, with a minimum of fabrication expense. Installations of this type have been in service in this district for more than a year, with no signs of corrosion, and apparently are entirely satisfactory.

In order to decrease somewhat the cost of 18-8 relief lines, it has been suggested that standard pipe size walls be reduced, especially on larger sizes. This is entirely feasibly where welding fabrication is used, as no allowance need be made for threading. It would seem that the practice used by some mills of washing down relief lines during shutdown periods is to be recommended. A considerable footage of 18-8 tubing of small pipe sizes is being used quite successfully for digester test lines.

The use of chrome nickel steels in and about the digester unit proper is now being given serious consideration by many interests, and with the advent of circulating systems the proper material becomes doubly important because of the possibility of excessive scale formation, if the corrosive attack is to be eliminated. Scale coating of calcium sulphate or calcium mono-sulphite readily absorbs high percentages of copper, and it may be quite possible that this copper content may have considerable to do with the corrosion underneath heavy coatings of scale. The fact remains that more uniform service is being experienced at mills where the copper alloys have been eliminated.

New Plied Metal Plate

An interesting development is the recent introduction of stainless steel plied to low carbon plate. The high costs of chromium nickel alloys have been a serious drawback in the construction of large stainless steel units where pressures and size necessitate the use of heavy gauges. This condition has led to the introduction of plied metal, and consists of a corrosion resistant surface of stainless steel perfectly bonded to a backing of carbon steel. This has been successfully accomplished by placing an intermediate layer of low-metalloid steel between the mild steel and stainless veneer.

Stabilized alloy is used for the veneer as a precaution against intergranular corrosion, and the resulting product may be fabricated by drawing, stamping or welding in much the same manner and technique as ordinary mild steel plate. The permanence of the bond is insured by the unique metallurgical and manufacturing conditions under which this material is produced. Some consideration is now being given to the use of this ply-metal for construction of digester units.

In conclusion, we believe the introduction of the chrome-nickel alloys is already effecting savings to

(Concluded on page 23)

SPEAKER RAINEY SPEAKS UP ON PULPWOOD

Speaker Rainey said recently that the government, as one of the major policies in its conservation program, should encourage and, if necessary, subsidize the making of a substitute for pulpwood. Speaking in Washington, D. C., over a National Broadcasting network, he cited experiments now under way to manufacture newsprint from cornstalks and straw.

"It takes a small forest of trees," he said, "to produce one edition of a great metropolitan Sunday newspaper, with all its supplements, and small trees are rapidly being destroyed and converted into pulpwood in order to produce the vast amount of paper used in the Sunday editions of these great newspapers.

"A substitute can be found for pulpwood, and we are gradually promoting the business of the manufacture of paper out of cornstalks and out of straw. This industry ought to be encouraged and, if necessary, subsidized by legislative action."

With all due respect to Mr. Rainey, it might be suggesed that men in public positions such as his should ascertain the facts before casting misleading propaganda on the radio waves. A cursory reading of the reports of the Timber Conservation Board or of some of the Forest Service publications might serve to convince of the ridiculous character of proposals to subsidize the making of newsprint from cattle fodder, in order to save our forests.

But then, Speaker Rainey comes from a section of the country which, in years when crops are not curtailed by government regulation and further reduced by drought, grows cornstalks and straw, so perhaps he would not care to have the facts called to his attention.

NEW FELT BULLETIN

A Kenwood Bulletin concerning felt deterioration due to mildewing has recently been issued by F. C. Huyck & Sons of Albany, N. Y., makers of Kenwood felts.

The bulletin describes the characteristics of this mildewing deterioration, the conditions which cause it, and proposes a method to remedy it.

Instructions are given for the use of mildew-proof powder, which will be of interest to every mill which desires to obtain normal expected tonnage per felt.

IMPROVEMENTS FOR NO. 7 MACHINE AT CAMAS

Complete modernization of No. 7 paper machine at the Camas plant of the Crown Willamette Paper Co. is called for in plans recently announced by the company. The machine has been shut down for about 10 days and the machine rebuilt at a cost of about $75,000.

Every latest improvement is being installed on the machine to make it ready for production of high grade papers, in line with the policy of the company in equipping the Camas mill for high grade specialty papers.

PHOTOGRAPHING PLANT RECORDS

Securing a number of monthly reports and detailed reports of pulp and paper mill operations distinct and without errors is something of a problem and also expensive when the usual method of typewritten duplications is followed. Longview Fibre Co., Longview, Wash., is now having its monthly records photographed.

One perfect copy is prepared, this is photographed and then by a rapid process as many duplicates are run off as desired.

Thus there is no chance of error, each duplicate is clear and accurate and the office force is relieved of the bogey of preparing a large number of duplicate reports.

Pulp Division, Weyerhaeuser Timber Co., follows the same process in making duplicates of each order. Every order put through the plant has a complete history kept of it and it is this history which is reproduced by the photographic process.

CROWN WILLAMETTE ADDS ANOTHER TUG

The Crown Willamette Paper Co. recently purchased another tug, the Jennie Barbour, as an addition to the powerful fleet of the Western transportation Co. She will be used chiefly for towing and salvage operations on the Columbia River.

The Jennie Barbour, named after the daughter of the president of the Louisiana - Texas Waterways Corpn., from whom she was purchased, was built about two years ago, and has had only eight months' actual service, so is practically a new vessel as tugs go. She is 100 feet long, has a beam of 24 feet, and can develop a speed of 12 knots. Her 700 horsepower is supplied by two 350 h.p. Diesel engines.

DICKEY GETS DEGREE FROM O. S. C.

U. M. Dickey, vice president of the Soundview Pulp Co., Everett, Wash., recently received the honorary degree of Doctor of Laws of Oregon State College. The degree, conferred at the sixty-fifth commencement held on the Corvallis campus, was in recognition of his contribution to agriculture. Mr. Dickey, in addition to his executive position with the Soundview Pulp Co., is head of the Consolidated Dairy Products Co., Seattle.

DEGREES AWARDED BY PAPER INSTITUTE

Commencement day at Lawrence marked the termination of four and one-half years of educational and research work by the Lawrence College Institute of Paper Chemistry, and with the granting of Doctor of Philosophy degrees to five students it becomes the second year that Lawrence has offered this advanced degree. Those who received the degrees are: Richard C. Crain, Frankfort, Indiana; Martin L. Downs, Reading, Pennsylvania; Walter F. Holzer, North Portland, Oregon; Henry E. Obermanns, Erie, Pennsylvania; and Sam J. Robinson, Des Moines, Iowa.

Master of Science degrees were awarded to: Earle O. Bryant, Clinton, North Carolina; Ward D. Harrison, Mason City, Iowa; James W. McIntyre, Freeport, Pennsylvania; Charles E. Roth, Dayton, Ohio; Robert D. Rusch, Neenah, Wisconsin; Harold C. Sperka, Oshkosh, Wisconsin; John C. Tongren, Ridgway, Pennsylvania; LaVern A. Gilbertson, LaCrosse, Wisconsin.

Walter F. Holzer was awarded his B. A. degree from Reed College, Portland, Oregon, in 1929, and his M. S. degree from the Institute of Paper Chemistry in 1932. Mr. Holzer is employed by the Crown Willamette Paper Company, Camas, Washington. The title of his Doctor's thesis is "A study of the coloring matter in pine kraft pulps."

WEYERHAEUSER PLANT REOPENS

After being shut down for three weeks because of the longshore strike, the sawmill and pulpmill of the Weyerhaeuser Timber Co. at Longview reopened early in June for an indefinite run. Shipments by water were still held up, but some lots of pulp were going forward by rail.

DEVELOPMENTS IN WOOD ROOM PRACTICE*

By F. A. NICHOLSON †

The preparation of wood before chipping is being accomplished by such a wide variety of methods, which are dictated by so many variable factors, that perhaps it would be desirable to limit our discussion to certain recent trends in mechanical equipment as used in the wood room.

The size and condition of our trees make it necessary to divide the log into sections of a dimension and shape to best disclose the defective wood, and permit the removal of black knots and bark in the most efficient and thorough manner compatible with the quality of chips it may be desired to produce.

The use of a standard sawmill log haul, log saw, band head saw and carriage, together with their auxiliary equipment, and sometimes followed by an edger, seems to be, at least at the present time, the logical equipment on which to perform the initial breaking down operations.

However, one might here suggest, for your consideration, the use of a head rig with three circular saws, diameter about 36 inches, and designed to take the least possible kerf, with two of them arranged like the common circular mill, but preceded throughout their path by the other saw, taking a horizontal cut, which would divide the flitch, and thus create two comparatively heavy log sections or cants at each pass.

This would eliminate the necessity of reloading the flitch, for edging, and would have the added advantage of throwing the bark dust away from the log instead of rubbing it into the wood.

It is obvious that the cross sectional area of the cants should be adjusted, and harmonized for the percentage of defect it is desired to remove. This is the secret of economical operation, for, in proportion as the log sections are unnecessarily reduced in size, both the cost of handling and the waste produced in subsequent cleaning operations, will be increased. The diagrams illustrate some typical examples of breaking down.

From the head saw, or edger, the material passes to a barking machine.

Perhaps there is no piece of equipment in the wood room which has been the subject of so much experimentation, and of which there are so many types as the barker, for here may occur the largest loss, both in material and labor.

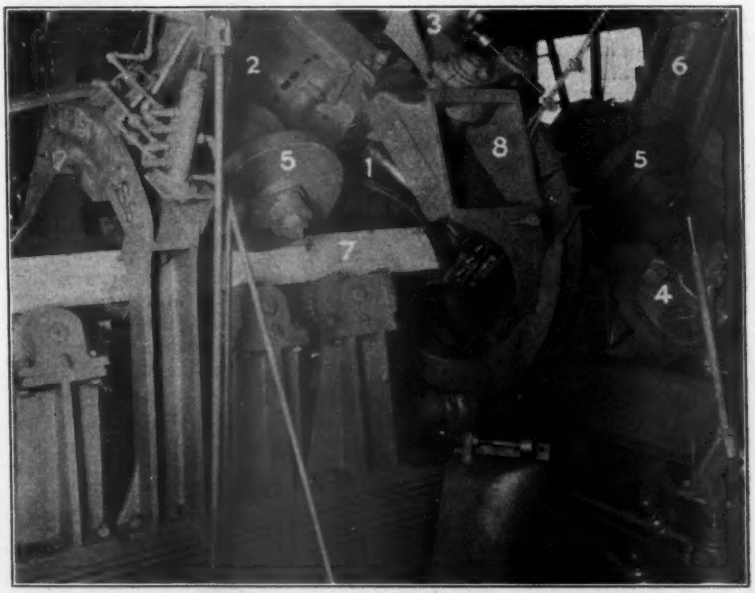
In the machine we will describe, the cants are passed through by means of power driven rolls, the bark surface coming under the operator's line of vision. Suspended from above the work is a large concave cutterhead, driven 3600 r.p.m. from a direct connected motor, and arranged so that it can be tilted angularly and raised or lowered by means of power driven adjustments, with which the operator may control the depth of cut and position of his cutterhead.

In the latest type of machine an additional adjustment is provided, as shown in the illustrations, so that the concave cutterhead may be slewed around at an angle, which results in practically shrinking or closing the curve of the cutter, to suit the surface of the log section being barked.

The controls for these various adjustments are concentrated in two levers, by means of which the operator can control all functions of the machine with approximately the same effort used in driving an autobile or an airplane. The controls also permit him to stop and back up the feed, to remove rotten wood or clean out fissures.

If one could imagine a creature of Paul Bunyan's stature, pushing a stick backward and forward with one hand, while with the other he holds above it a cutterhead, absorbing the power of fifty or seventy-five horses, which he can dexterously flip around at any angle, fitting it to the diameter of the log, the while, following the undulations and taper, one can form a conception of the picture the designers of this machine had in mind.

After barking, the wood may be transferred to positions where hard black knots, and dirty ends can be



Details of the barker with cutting unit exposed. No. 1, concave cutter head; 2, 75 h.p. motor driving head; 3, electric motor by which head is slued around; 4, air motor controlling movement of head around its circle; 5, press rolls holding log for barking; 6, air cylinder operating press rolls; 7, section of a log larger than 28 inches going through barker; 8, opening through which bark is carried to hog by blower system.

*Presented at the spring meeting of TAPPI, Seattle, Wash., April 6-7, 1934.

†Chief Engineer, Stetson-Ross Machine Co.

removed, by means of drilling machines and saws.

In the knot boring machine the material is carried on dead rolls and pushed along, or rolled over, by hand, to approximately position it beneath the drill, then the flexible arm carrying the borer is swung into line, and forced down by means of a power feed which is actuated and controlled by the operator's foot pedal.

In certain plants where the cleanest possible chips are desired, the log sections are from this point carried over a slowly moving apron conveyor, where there is opportunity for inspection, and removal by hand, of the last vestige of defects.

There is a field here for development of portable electric driven tools, with which to perform the final touching up operations in a more efficient manner than possible with the hand axes in vogue at present.

Before delivery to the chipper, the material is sometimes given a bath, or passed through a washer containing high pressure water nozzles, for removal of any dust clinging to the surface.

The design of wood room equipment is moulded by the perpetual cry of the age, which continually asks for more highly mechanized equipment. Therefore, we can, without fear of contradiction, predict further changes and improvements, probably in both methods and equipment, and as fast as money is available to carry them out.

Foreign Mill Profits Increase While U. S. Production Costs Rise

Scandinavian pulp and paper producing companies, almost without exception, have reported increased profits and dividends for 1933 over those of 1932, in spite of the fact that their most profitable operations —sales to the United States on the basis of depreciated currency—were assumed to have been curtailed when this country went off the gold standard.

Inspection of the balance sheets of most American companies in the industry makes a sad comparison, profits being few and far between, dividends practically unknown, and the chief claim to improved business being in showing some reduction in the heavy losses of the past several years.

In March, 1933, the average exchange value of the Swedish krona was $0.1819, after which it gradually increased to the high average of the year, $0.2655 in November, slightly under par. The average for the year was $0.2195, while in 1932 it was $0.1847. Yet despite the severe loss in profit from exchange on trade with the United States, only partially made up by price increases, Swedish companies succeeded in making even greater profits.

It would appear that under our present policy of permitting unrestricted foreign competition on pulp and newsprint, increased demand has resulted in higher profits for producers in other lands, while the greater business volume of American mills has been largely offset by increased labor and other production costs.

Recent issues of the Swedish Wood Pulp Journal record the 1933 statements of some of the Scandinavian concerns which are interesting to note. Stora Kopparbergs Bergslags A.-B. shows for 1933 a net profit of 3,640,000 kr., compared with 2,560,000 kr. for 1932, 3,110,000 kr. for 1931, and 3,720,000 kr. for 1930. This improvement has been achieved in spite of considerably increased allowances for depreciation, the amount so appropriated being for 1933 3,680,000 kr. as against 2,280,000 kr. for 1932 and 1,450,000 kr. for 1931. Dividends have been increased from 5 to 6 per cent.

Bigger and Better Profits

Billeruds A.-B. shows a profit of 3,400,000 kr. for 1933 compared with 2,400,000 kr. for 1932, 3,400,000 kr. for 1931 and 2,930,000 kr. for 1930. Pulp profits for 1933 were slightly under 1932, but profits from paper sale were higher. The dividend rate has been raised from 3 to 5 per cent.

A.-B. Iggesunds Bruk shows a net profit for 1933 of 613,000 kr. compared with 80,000 kr. for 1932 and 220,000 kr. for 1931. Dividends were doubled, from 2½ per cent to 5 per cent.

Hellesfors Bruks A.-B., while showing a loss on their entire operations, including their iron works, etc., derived an income of 190,000 kr. from pulp manufacture in 1933, compared with a loss of 80,000 kr. in 1932 and a loss of 290,000 kr. in 1931.

The Hissmofors A.-B. made a net profits of 182,000 kr. in 1933 compared with 30,000 kr. in 1932 and 171,000 kr. in 1931. While both pulp production and sawmills showed a deficit in 1932, in 1933 they made a profit of 121,000 and 15,800 kr. respectively.

Uddeholms A.-B. made a profit of 1,710,000 kr. in 1933, but only 810,000 kr. in 1932 and 1,450,000 in 1931, this in spite of the fact that 3,000,000 kr. were written off in 1933 instead of 1,500,000 kr. as in 1932 and 1931.

From another source, unofficial, information comes that another concern made a net profit of 2,230,000 kr. in 1933 instead of only 980,000 kr. in 1932. A Finnish producer showed a net profit of 10,200,000 fmk. and paid a dividend of 8 per cent on common shares and 13 per cent on preferred shares. Norway's leading pulp manufacturer made a net profit of 2,240,000 N. kr. in 1933 and raised the dividend from 2½ to 3 per cent.

Numerous other examples might be given, but a sufficient number has been quoted to make the point—that profits and dividends are as frequent among the Scandinavian mills as losses are among producers in this country.

Something is wrong in the set-up when manufacturers within the country which uses nearly as much pulp and paper as the rest of the world cannot operate profitably, while their foreign competitors, doing a large business in our markets, make increasing profits even when advantages from monetary exchange are taken away.

One reason may be the continuance of lack of restriction on foreign competition at a time when domestic production costs are being materially increased.

Information from the U. S. S. R. is that the White Sea-Baltic section is being prepared for pulp developments with two big power stations being built on the Toluma and Vyg rivers, as the basis for concentrated pulp manufacturing in the districts of Segesja and Pudosj. In addition, a 100,000-ton per annum chemical pulp mill is being built, and that pulp is said to be intended for export.

With the threat of additional foreign competition in pulp markets from the U. S. S. R. in the offing, the outlook for our domestic industry is not too bright as long as such competition is entirely unrestricted.

OCEAN FALLS MILL MAKING EXTENSIVE CHANGES

Major improvements are under way at the Ocean Falls, B.C., plant of Pacific Mills, Ltd., which affect every step in their operations, from the wood in process to the completed sheet.

Present plans for development in this northern mill call for three suspended type drum barkers which will be installed in connection with the wood preparation plant. The present sawmill includes a ten-foot band, with a complete lumber plant providing lumber for both local and neighboring requirements. The new drums will replace sixteen disc barkers and will provide wood for the groundwood, sulphite and sulphate pulp mills.

The new drums call for special heavy type construction and constitute a departure from the standard practice in that only about one-third of the normal number of rivets will be used, and the strength will be provided by welding the "V" bars to the supporting rings. Excavation for this new equipment has already started and installation is planned to be completed within two months.

During the course of the past few months Pacific Mills has completed the rebuilding of several of their paper machines, and within the next few weeks will have their paper mill provided with most of the modern equipment available. No. 1 machine, which is now in the process of being rebuilt, has already been equipped with new perforated rolls in the headbox, and with the new Johnson type of trunnion dandy. Further development calls for a Beloit-Dominion suction couch roll of 36 inches in diameter and a Beloit-Dominion rubber-covered suction press roll.

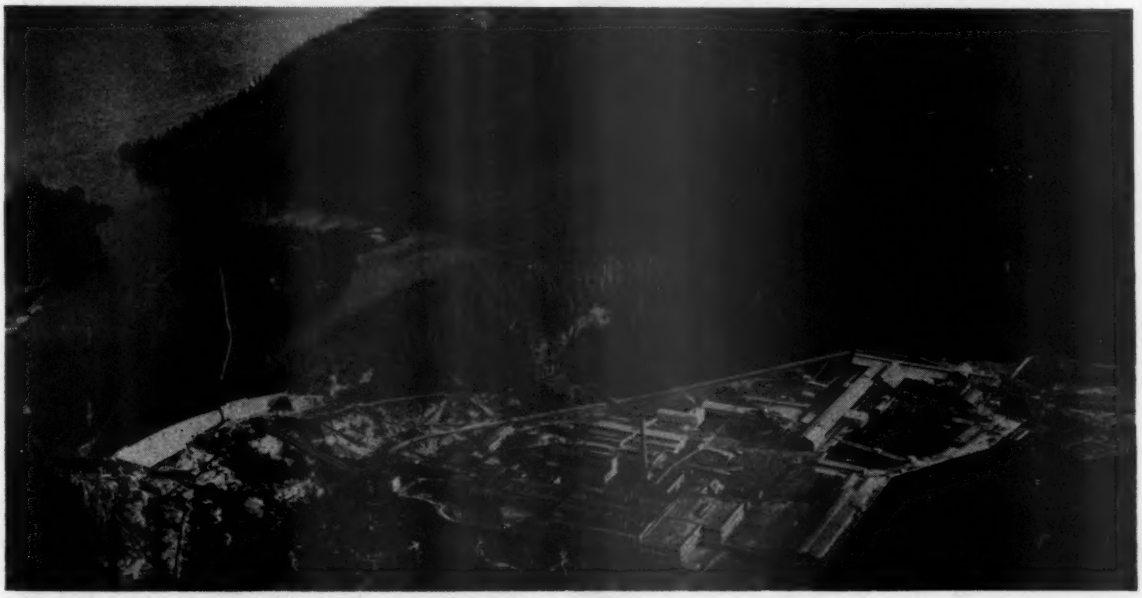
No. 2 machine has already been equipped with the same equipment which will be applied to No. 1 machine, with the exception of the rubber-covered suction press roll which was applied to this machine more than a year ago. No. 1 and 2 machines at Ocean Falls are 204 inches wide and are running exclusively on newsprint operating at about 800 feet per minute.

Numerous Machine Improvements

No. 3 machine, which is an all purpose machine, has recently been equipped with perforated rolls, a completely rebuilt fourdriner, a Beloit high-speed shake, a Beloit-Dominion suction couch, and a Beloit-Dominion rubber-covered suction press roll. This machine operates on news, kraft, chipboard and liner board, running all basis weights from the lightest kraft sheets to thirty-one point chip. A feature of the rebuilt fourdrinier is the fact that it is equipped with micarta-covered table rolls.

No. 4 machine, which is a general utility machine running everything from tissues to kraft, has been equipped with a new Beloit four-foot creping dryer used in connection with manufacturing toilet tissue specialties. This machine also has a new Poirier weight regulator.

No. 5 machine, a Bently-Jackson Yankee, has recently been equipped with a new type Ross hood and at the same time a Beloit-Dominion rubber-covered suction press roll was installed. The Ross hood is the blast nozzle type and is one of the few installations of this type of hood. The hood is equipped with fifteen ducts 9 inches in diameter each equipped with thirty-six 1½-inch diameter blast nozzles, and two ducts 13 inches in diameter each with thirty-seven 1½-inch blast nozzles, which blast the hot air directly on to the sheet on the dryer. The hood itself is of metal and wood construction. A Poirier weight regulator has also been installed on No. 3 and a new Beloit double slice controls the sheet onto the wire.



Pacific Mills, Ltd., at Ocean Falls, B. C.

Japanese Industry Continues Forward Strides

Japan's imports of wood pulp were raised to a new high level during 1933, as a result of the improvement in the domestic demand for paper and the increasing production of rayon, artificial fibers, and transparent cellulose sheeting. The increase in imports is not entirely due to the inability of the Japanese wood pulp mills to take care of the domestic demand but is attributable to a demand for better types of pulp than is produced in the local mills.

Japanese wood pulp production rose rapidily between 1923 and 1930, the tonnage having increased from 357,084 tons in the former year to 625,537 tons in the latter. Japan, in common with other nations, suffered a decline in industrial activity during 1931 and although there was an improvement in conditions during 1932, the pulp industry did not begin to benefit until the end of the year. As a consequence, pulp production during these years fell to 566,709 tons and 551,120 tons respectively. It was 683,462 tons in 1933.

It was estimated at the beginning of 1934 that the total output of wood pulp during the year would be approximately 695,000 tons, and if the production of pulp by the members of the Paper Manufacturers' Association may be taken as an index of the total Japanese production during the current year, there is little doubt that this figure will be reached.

The Bureau of Forestry of the Department of Agriculture and Forestry has estimated that wood pulp capacity during 1934 will reach approximately 700,000 tons. There is little doubt that the new pulp mills under construction and extensions to existing mills will enable Japanese pulp manufacturers to turn out 700,000 tons by the end of the year. Whether or not the quality of the pulp produced will be satisfactory to the manufacturers of fine papers, rayon and transparent cellulose sheeting is doubtful. Of a total production in 1932 of 551,120 tons, sulphite pulp accounted for 277,588 tons, mechanical pulp 241,746 tons, and kraft pulp (unbleached sulphate) 31,786 tons.

Approximately half of all of the wood pulp manufactured in the empire is produced in mills located in Karafuto, the southern portion of the island of Saghalien. Only about 20 per cent of the total production is produced on the main island of Japan, and 30 per cent in Hokkaido. Small amounts are also produced in Chosen.

The consumption of pulp wood in 1924 amounted to 48,325,210 cubic feet and increased steadily thereafter up to 1929, when consumption reached 85,780,690 cubic feet. Consumption thereafter dropped steadily, amounting to only 67,941,490 cubic feet in 1932, the lowest amount since 1925. Estimated consumption during 1933 was originally set at 76,563,000 cubic feet, but is is believed that the figure was somewhat higher than this amount.

FLAX STRAW SHIPPED TO BROWN CO.

Several carloads of flax straw have been shipped from Salem, Ore., to the Vermont mill of the Brown Co. It will be used for experiments in the manufacture of paper. It is reported that the price paid was $23 per ton f.o.b. Salem.

STAINLESS STEEL BLOWPIT BOTTOM FOR FIBREBOARD

When the new digester for Fibreboard Products, Inc., is completed at Port Angeles, the unit will discharge into a blowpit fitted with an Allegheny steel bottom. The stainless steel blowpit bottom was ordered through Ray Smythe of Portland.

Construction of the new unit is progressing rapidly and will be finished in a couple of months.

The Karafuto Kogyo Paper Mill at Tomarii, Japan

PAINT PROTECTION FOR PULP AND PAPER MILLS*

By CARL G. JOHNSON†

"Save the Surface and You Save All" probably was in the mind of the man who originated the saying, after he had had experience in the upkeep of a paper mill, for there we have not only the ordinary wear and tear of the elements, but also the acid, alkali and water-resisting problems.

Needless to say, a paint that will not resist the changes of the atmosphere, such as the ultra-voilet rays alternating with dampness and freezing, is not practical, even though it should be highly resistant to acids and alkalis. The paint manufacturers have been in a competitive race to give you finishes which have all of the above qualities, with maximum service, and added protection against rust and decay.

We learn only by comparisons, and while thousands of experiments have been conducted with numerous formulations of protective coatings for preservation of surfaces, comparatively few have been carried out for the sole benefit of the paper mill trade. Some have stressed the fact that certain pigments are more resistant to the acids than are other pigments, ignoring the fact that the vehicle with which it is combined is of primary importance.

Some paper manufacturers have recently conceived the idea of buying their paints according to specification formulas, permitting paint makers to bid on the given specifications. This we deem to be unwise, as it would relieve the paint maker of the pride of making a superior product. Two cooks might use the same materials, one making an excellent cake, and the other a failure. It is true that had this policy been followed in the past years, you would not at the present time be using the highly efficient coatings, such as the new developments of the synthetic gums, phenol-formaldehyde, gyptols, and combinations of these materials.

Our own government specifications for outside paint TT-P-36 permits of a totally unbalanced proportion of mineral thinners, which could cause serious trouble in blistering, flaking, and peeling of the protective coating, and we find the users favoring trade brands have received far better results at no greater cost. Paint makers who have a pride in results obtained will not base their price on the maximum of the cheaper materials that might be used in these specifications.

Effect of Chlorine on Paint

Chlorine gas, long an aggravation in the paper mill, has been resisted successfully in modern enamels, as well as sylphurous acids, which have been highly destructive to the old types of finishes. Probably even greater strides have been made in the alkali-resisting qualities of the modern finishes. Until recently, when a spill has occurred in a digester, it has meant a re-paint job, but now a simple hosing is all that is necessary to bring back the original finish.

The U. S. Forestry Department has tested some 2,700 water-resisting finishes, and while none have shown absolute water-resistance, some have given excellent results. A recent development in chlorine and water-proof finishes has been made, and after almost a year of service, it is in apparent perfect condition, showing no softening to the constant agitation of the pulp, nor is it affected by chlorine, which is used as a bleach.

The real problem on exterior surfaces is to procure a paint that has good weather-resisting qualities, as well as being highly resistant to the acid given off from the paper plant Some very poor coatings have been sold to the paper mills, which have failed under ordinary weather conditions, in a period of a few months. The manufacturers maintained that the paint was acid-resisting, forgetting that their product was not weather-resisting.

Basic carbonate of lead is changed to lead sulphide on exposure to sulphur fumes. The chief chemist of a large paper mill started using a lead sulphate base paint, which greatly prolonged the life of the protective coating. Titanium dioxide is sometimes used for this purpose, and is giving good results when combined with harder pigments, to prevent excessive chalking, which is a fault with the above pigment. It does not have the characteristic weakness of peeling, scaling, and flaking of the lithopone paints, which can be made at a much lower price.

Linseed oil is still the accepted vehicle for all exterior painting, giving best adhesion, as well as long wear. To this may be added a small proportion of treated China wood oil, for water-proofing, and a synthetic resin for acid resistance.

A porous film does not protect. Water, air and gasses will play havoc with iron, wood and steel, and if the film is porous, the door is open to the ements, and disintegration follows.

Paint is used not only to prevent corrosion and decay, but also to beautify, making for better working conditions for employees. It has been proven that more efficient work is produced where light, clean, well-painted walls and ceilings are provided, than where the rooms are dark and unpainted. An increased betterment in mental and physical conditions is noted, as well as a saving in light bills.

Another recent development is a non-bleeding aluminum paint that may be applied over bituminous paint. Where a change in color is desired, this can then be coated over with lighter-colored material, giving good results.

Bituminous paints still find some uses in the paper plant, being somewhat resistant to acids, but very poor in weather-resistance.

Color is now used extensively in the modern paper plant, one color for water lines, another for steam, one for fire protection, etc., all these colors being highly resistant to the destructive force so evident in your industry.

All modern paint manufacturers are alive to the problems of the trade, to which they cater, and their technical staffs will gladly try to give aid in your paint problems.

*Presented at the Spring meeting of the Pacific Coast Section, American Pulp & Paper Mill Superintendents' Association, Portland, Oregon, June 1-2, 1934.

†General Paint Corporation, Portland.

Production Labor Costs Rise; Foreign Competition Continues

When the NRA code for the pulp and paper industry went into effect last winter the industry estimated that the effect of the code would be to increase the total payroll from about $100,000,000 a year to approximately $170,000,000, which on its face is a large increase both in dollars and in per cent.

The proposed revision of the code again raises the basic wages in the industry, the minimum scale being increased a further 10.5 per cent in the northern zone, 11.4 per cent in the central zone, and 13.3 per cent in the southern zone.

Naturally, production costs have risen considerably since the code went into effect. The industry has cheerfully done its share to better conditions in the country. Yet the industry is still subjected to unrestricted foreign competition, despite the implied promise of the Industrial Recovery Act.

While the most destructive form of foreign competition, that from depreciated currencies, has been eliminated, the competition between our high standard of living and the low labor costs of other nations is becoming more pronounced. In this connection it is apt to recall the statement made by Lieut. Col. Warren B. Bullock, manager of the Import Committee of the American Paper Industry before the Salesmen's Association of the Paper Industry at its New York meeting April 23.

"The failure of one division of the National Recovery Administration to function in conformity with the specific provision inserted in the original National Recovery Act by the United States Senate is having a serious effect on the efforts of domestic paper and pulp manufacturers to combat competition from foreign mills.

"When the Recovery Act was before the Senate, attention was called to the fact that increased employment, better wages, and general national industrial recovery would be impossible if steps were not taken to prevent the low paid, almost pauper labor of foreign nations from exploiting the American market to the detriment of the domestic mills. With higher prices here, it was felt that there must be protection lest the Recovery Act should become merely a means for restoring prosperity abroad, instead of at home.

"Section 3 (e) was then written into the Act, to provide that tariffs could be changed, quotas established, or even embargoes proclaimed if necessary to prevent the efficacy of the NRA Codes from being destroyed by foreign competition in what was expected to be an improving market.

"An Imports Division was established in the Recovery Administration to handle problems of foreign competition. This division prepared forms calling for voluminous data from the domestic producers. Despite the mass of information demanded, many industries filed formal complaints complying with these requirements. One such was the domestic Newsprint Industry which provided evidence that European Newsprint was being sold on contracts guaranteeing delivered prices at all times $7 per ton less than the delivering prices being charged by the representative North American mills. This was filed four months ago. Like some twenty other similar complaints, this complaint has not as yet been acted upon. The feeling in all branches of domestic industry is that the plain expressed intent of the Senate, accepted by the lower House of Congress, has been vetoed.

"Whether this veto has been exercised by High authority, or by subordinate officials in the National Recovery Administration is beside the point—the veto has been exercised, and domestic industry has as yet been given no relief from foreign competition."

NEW WALDRON CELLOPHANE SLITTER

The John Waldron Corporation of New Brunswick, N. J., manufacturers of paper converting machinery for over 100 years, have designed a new Cellophane Slitter which provides many notable advantages.

This new Waldron Slitter will cut cellophane with a clean shear cut edge, without any fuzz or cracks on the edge of the cellophane, and it provides for a uniform winding tension on all strips.

The John Waldron Corporation office on the Coast is located at 2860 N.W. Front Ave., Portland, Ore.

THREE VETERAN C. W. P. MEN GET SERVICE PINS

Three veteran Crown Willamette Paper Co. employees were honored at a luncheon at Camas, Wash., last month. Service pins were presented to these three men: Ed Tidland, 25 years; Ben Reed, 20 years, and Paul Middlebrook, 20 years. The presentations were made by Albert Bankus, C. W. P. executive. Others in attendance at the luncheon were J. E. Hanny, George Charters and Vic Gault.

PORT ANGELES PLANT ENDANGERED BY FIRE

Drenched by the mill's automatic sprinkler system and water from hose lines handled by the company's fire department, fire that broke out in the sawmill of the Washington Pulp and Paper plant at Port Angeles on June 4, was extinguished before extensive damage could be wrought.

A large motor at the head saw, some other equipment and part of the roof of the sawmill, at the south end, were damaged by flames and water. The loss was slight, however, compared to the destruction threatened before the blaze was checked.

Spontaneous combustion was believed the possible cause of the fire.

WESTMINSTER PAPER CO. INSTALLS NEW MACHINES

The Westminster Paper Co. at New Westminster, B. C., has recently installed a new toilet paper machine and a new tissue creping machine.

COAST PULP TESTING CHEMISTS APPROVED

The Joint Committee on Approved Pulp Testing Chemists for the paper industry has approved a list of such chemists for weighing, sampling and testing woodpulp for moisture, included in which are the following western chemists:

Abbot A. Hanks, Inc., 624 Sacramento St., San Francisco, Calif.; Arthur R. Maas Chemical Laboratories, 308 E 8th St., Los Angeles, Calif.; Henning J. Arbo, B. C. Pulp & Paper Co., Woodfibre, B. C.; Leslie K. Bickell, B. C. Pulp & Paper Co., Port Alice, B. C.; Wm. E. Breitenbach, Grays Harbor Pulp & Paper Co., Hoquiam, Wash., N. W. Coster, Soundview Pulp Co., Everett, Wash., Wesley M. Osborne, 1213 South Fife St., Tacoma, Wash.; Hyman L. Rammer, Fibreboard Products, Inc., Stockton, Calif.

Mineral Products For the Industry Capable of Northwest Production*

By J. D. HULL†

As a result of inquiries made directly to the pulp and paper companies in the State of Washington by the Research Department of the Mineral Survey, which is now being conducted, it is found that this industry uses in excess of three million dollars worth of mineral products in their operations annually.

The principal commodities are sulphur, limestone, salt cake, soda ash, soapstone, hydrated lime, burnt lime, talc, china clay, sodium silicate, mica, and ground slate. The Mineral Survey, which is now being conducted under the State Department of Conservation and Development, has disclosed the occurrence of mineral deposits carrying the raw materials from which these mineral products can be produced. It is perhaps too early to state whether such production is practical, but it is certainly worth a very careful investigation, as the benefits that would be derived not only to the pulp and paper industry but also to the State at large are of considerable magnitude.

Purpose of Mineral Survey

The Mineral Survey referred to was initiated by E. F. Banker, Director of the Department of Conservation and Development, and Ross K. Tiffany, present Secretary of the State Planning Commission. It has been financed as a CWA project, employing geologists, mining engineers, chemists, metallurgists, and research men. It has been conducted along commercial rather than strictly technical or academic lines, for the purpose of determining the facts regarding our known mineral resources; to see if we had mineral deposits that could be commercially worked under present day conditions; to create new employment; and to determine such deposits as would afford an outlet for power consumption from the Grand Coulee and Bonneville power developments; and in fact to make as complete an inventory as possible of the mineral resources of the State. The work has been temporarily curtailed owing to the change in CWA plans, but it is believed that some arrangement can be made for its continuance. The results to date certainly justify its continuance. Some new employment has already been created; some mineral deposits, previously thought to be of little value, have been ascertained to have very definite possibilities, due to better transportation facilities, cheap power, and new methods of treatment.

Native Products Imported

We find that many mineral products are imported into the State that could profitably be produced here. A typical example is California diatomite—being used in concrete construction in Eastern Washington, alongside of our own diatomite deposits of equal quality. Soda ash is another material being imported from California to be used as a fruit wash in Yakima and Wenatche valleys, in the vicinity of which are located our natural deposits. Several others have been brought to our attention.

It is the aim of this Mineral Survey to study our commercial deposits from an impartial viewpoint, to place these facts before the public, to those who might be interested in their development and in their consumption, and in every way aid and encourage the development of the mineral resources of this State. California has set us an example. They have urged the use of California products for California industries. Washington should do likewise, wherever products of equal merit can be furnished at equal or less cost. The fact that we have not in the past developed our mineral products that are used in the pulp and paper and other industries should not deter us from their consideration in the future. We should run down every possibility to fill the local requirements of our industries from local production. This may mean slight revision in materials or processes now used. It is possible that such changes might be beneficial to the industry.

Let us consider some of the separate products:

Sulphur, consumption of over 80,000 tons a year, having a value of nearly two million dollars, now imported from Texas and the Gulf states. We have native sulphur deposits in Mount Adams and in the Mount Baker district; we also have reported extensive deposits in the Cascades of high-grade iron pyrite said to carry from 35 to 40 percent sulphur and from two to four dollars in gold. These should be investigated as soon as snow conditions permit, and if representations are verified, a study should be made of the most economical method of their utilization, either for furnishing liquid SO_2 or elemental sulphur. It may be found that sulphur can be profitably produced from these sources at a lower figure than at present prices.

Over $650,000 worth of limestone, burnt lime, and hydrated lime, is now used in the industry, which comes from the State of Washington and Canada. The only suggestion offered in connection with these materials is that there might be a source of supply of equal or superior quality closer at hand to the point of consumption than those now being used. One such instance has been brought to our attention, which might be of interest to a certain group of pulp mills. This deposit should be investigated as to its extent, cost of production, and suitability for use in the pulp industry. Toward this end the laboratories of the pulp mills should cooperate and determine whether there are any detrimental elements associated with the lime, and whether it would be suitable in its present condition.

Washington Salt Cake Beds

Salt cake and soda ash—approximately $400,000 worth consumed, most of which is salt cake, is imported from outside sources, yet we have natural lakes located in Grant, Okanogan and Douglas counties, the pure quality of which has been established, which offer possibilities

*Presented at the Spring meeting of TAPPI, Seattle, Wash., April 6-7, 1934.

†Supervisor, Mineral Survey, State of Washington.

of supplying a considerable portion of the requirements of the pulp and paper industry. A study of up-to-date methods of preparation indicates that with an equitable revision of existing freight rates, proper management, adequate financing, and cooperation of the pulp and paper industry, that these materials could be produced in competition with those which are now imported from Germany, Chile, Nevada and California.

Local Soapstone Now Being Used

Soapstone blocks used for the smelting furnace linings of the sulphate pulp mills until recently were furnished by the quarries of Virginia, making it necessary to order in large quantities to assure a supply for future requirements. We have many soapstone deposits in the State of Washington, some of which probably contain material of equal merit to that now being brought in from Virginia. Some work has been done on the soapstone deposits in the Skagit Valley, 10 miles above Marblemount. In fact, some blocks have been produced for one of our sulphate mills, sufficient to give employment to from 15 to 20 men. This in itself, while apparently trivial, is of importance these days. Our engineers have been called upon for advice in connection with this operation, and we hope that they can be of some assistance in this development. We commend the pulp mills who are trying out these blocks and for the cooperation they are giving to the development of this branch of the industry.

Nearly $70,000 worth of talc and china clay are consumed annually for paper fillers. This now comes from England, Georgia and California, yet who can say that these products could not be equally well furnished from our own State? We have deposits of these materials in different localities in the State. I have before me a report on tests made on some of these materials in comparison with the materials that are now being used in some of our paper mills. This report was made by J. Tershin in the Ceramics Laboratory at the University of Washington, under the direction of Professor Hewitt Wilson, apparently a very carefully conducted test, and disclosing that with proper preparation of the local materials a very satisfactory result can be obtained. One interesting feature about this test was the results obtained using a calcined diatomite from Eastern Washington. This material offers possibilities. Further tests should be conducted, trying the diatomites from the different deposits in the State. We have found in other connections that they have quite different properties. One may be found that will be particularly well adapted as a paper filler. We would mention without going into further detail, sodium silicate, mica, ground slate, aluminum, and possibly other mineral products, all of which no doubt could be produced locally, but are now imported from outside. A large quantity of California fuel oil is used for steam generation and power production. It is not beyond the bounds of reasonable expectation to state that this may some day be supplanted in certain districts by gas or oil from Washington fields. It also might be found on careful investigation that powdered Washington coal would be just as economical as oil brought in from the outside.

The development and production of the mineral products herein referred to can be brought about with the fullest cooperation of those engaged in the pulp and paper industry. It is to their interest to give this cooperation. Their laboratories and research departments could be of great assistance. In making future contracts for these materials, the time element should be taken into consideration so that they would not be precluded from using local products if they are available at equal or less price and equal quality, by reason of a long-time outstanding contract for foreign-produced material.

The addition of $2,500,000 worth of new business would be a great incentive to the industrial and mineral development of this State and would go a long way toward relieving our present unemployment situation.

BOXBOARD PRODUCTION

Boxboard production in the United States in March 1934 was 254,819 tons, or 64.1 per cent of raed capacity. In the same month of 1933 the industry operated at 54.9 per cent of capacity.

During April output was 244,334 tons, or 66.1 per cent of rated capacity, compared with production of 58.2 per cent of rated capacity in the same month last year.

Total production for the first four months of 1934 is 952,830 tons or 62.5 per cent of rated capacity. The first quarter of 1933 showed 872,578 tons production or 55.9 per cent operation.

SHELTON WASTE BURNER BELIEVED SUCCESSFUL

The recently finished waste sulphite liquor incinerator-evaporator of the Rainier Pulp & Paper Co. went into action the first part of June, and it is believed that its successful operation is definitely assured.

The company has been making no water shipments since early in May, due to the strike of longshoremen, and has constructed a large storage shed in the auto parking lot for temporary use.

COMPENSATING TAXES ON PAPER PRODUCTS REDUCED

On June 12, Secretary of Agriculture Wallace terminated the compensating tax on paper used in the manufacture of large paper bags.

In addition the compensating rate of tax on paper used in the manufacture of paper towels was reduced and the compensating tax on paper fabric used in the manufacture of open mesh paper bags was adjusted by a modification in their definition.

The adjustment of the compensating rate of taxes on paper bags involves the abatement or refund of the tax on bags with a capacity of 75 pounds or over. The adjusted rates on paper bags have a sacking capacity of 4½ pounds and over and less than 75 pounds, printed, labelled or otherwise identified as bags designed and in form for use in the packaging of grain flours, corn meal, sugar, salt, fertilizers, food or potatoes is as follows:

	Per M
4½ to 5.4 lb. size	$1.24
5½ to 7.9 lb. size	1.47
8 to 10.9 lb. size	2.02
11 to 12.9 lb. size	2.25
13 to 16.9 lb. size	3.11
17 to 29.9 lb. size	3.96
30 to 74.9 lb. size	7.91

The rate of tax on paper fabric going into open mesh paper bags was left unchanged, but is limited to bags having a cut area of less than 950 square inches per bag or having a basis weight of less than 369 pounds of paper content per thousand bags and bags having a basis weight greater than 369 pounds per thousand bags but less than 825 pounds paper content per thousand bags, provided that for each pound decrease frp. 825 pounds the cut area per bag is not more than 1.15 square inches greater than 950 square inches.

The rate of tax on paper used in the processing of paper towels was reduced from .715 to .346 per pound weight of paper.

T·R·A·D·E • T·A·L·K

of those who sell paper in the western states

+ + + +

Zellerbach Men Receive Honors

In the presence of a large number of the employees of the Zellerbach Paper Co. a double ceremony was held in April to honor Augustus J. O'Farrell, who had completed 35 consecutive years of service with the company, and Milton Colton who had just concluded 30 years.

Mr. O'Farrell was presented with a diamond studded service pin by Harold L. Zellerbach, president of the corporation, and the presentation of the diamond studded service pin to Milton Colton was made by Louis A. Colton, vice president, who had hired his brother 30 years ago.

As the men were employed in April, the presentation was made on April 18—the anniversary of the great San Francisco fire. Mr. Zellerbach reviewed some of the activities of Mr. O'Farrell and Mr. Colton over the many years and dwelled particularly on the eventful days following the great fire of April, 1906, and the splendid service rendered by these two men in helping the company to get started again.

A. J. O'Farrell was employed on April 13, 1899, by Mr. I. Zellerbach as a stock clerk. The firm was then A. Zellerbach & Sons and was located at Clay and Sansome streets, San Francisco. Mr. O'Farrell was appointed foreman of the warehouse and then superintendent, which position he held for a number of years, until he was appointed purchasing agent for the San Francisco division.

When asked to mention some of the important changes in the paper industry during his employment, he replied: "When I went to work, the assortments of paper were very limited. Today there is a vast variety of papers—variety as to color, texture, finish and purpose. Production has been greatly increased through improved machinery. When I started in the paper business a Fourdrinier paper machine making newsprint could only run about 400 ft. a minute and this was considered wonderful speed. Today these machines can run 1,500 ft. a minute. One of these modern newsprint machines in 24 hours could produce a ribbon of paper 20 ft. wide which would reach from San Francisco to Los Angeles, or a distance of some 450 miles."

MILTON L. COLTON

Milton Colton was employed April 18, 1904, as an errand boy, soon became a stock clerk, and then was moved to the sales department where he has remained ever since. Today he is assistant sales manager. In January, 1917, he was transferred to the Salt Lake City division, where he enlisted in the air service shortly after and served 16 months in the army. When mustered out of service he spent a short time in Salt Lake City and then came back to San Francisco.

Mr. Colton has taken an active interest in the American Legion. He has made a special study of paper problems as applied to advertising and for some time conducted educational classes for the company in the training of the cub salesmen.

Mr. Colton is a member of the San Francisco Advertising Club, Sales Managers Association of San Francisco, and the San Francisco Club of Printing House Craftsmen.

REYNOLDS HAS NEW POST

W. B. Reynolds has been appointed secretary of the sub-committee of the Southern California trading area by the national paper code authority, on recommendation of the Pacific Sates regional committee. He succeeds J. R. Coffman who has served the wholesale paper trade for many years.

Mr. Reynolds early in March stepped out of the management of the General Paper Co.'s San Francisco division. Besides an intimate technical knowledge of paper products and of the mechanics of the distributing end of the industry, Mr. Reynolds also has behind him a successful record in connection with trade group and paper code activities. His accomplishments as head of various committees of the trade organization in San Francisco earned him many comments of approval during the past several years.

PRITCHARD ELECTED ADVERTISING CLUB HEAD

Charles Pritchard, sales manager of Bonestell & Co., San Francisco paper jobbers, has been elected president of the San Francisco Advertising Club.

NEW PAPER PRODUCTS AT WORLD'S FAIR

It has been found that the legs and wings of flies, if mixed with the pulp of super-fine paper, give the finished product a peculiar and handsome pattern which can be duplicated in no other way. The chief problem appears to be to find where and how to get a sufficient supply of flies.

This new "fly paper" is being shown for the first time at the Chicago Century of Progress.

Another new paper product displayed is a paper nail. Industry has long desired a nail that is a non-conductor of electricity. After long experiment a paper nail has been developed that by means of hydraulic pressure can be made so tough and resistant that it can be driven into a hardwood plank without breaking or bending.

WHITMAN COLLEGE HONORS MILLER FREEMAN

The degree of Master of Arts, **honoris causa**, was conferred June 23rd on Miller Freeman, publisher of Pacific Pulp and Paper Industry by Whitman College, oldest institution of higher learning in the state of Washington.

The honorary degree was in recognition of Mr. Freeman's public service on behalf of Pacific Coast progress. "Mr. Freeman has given generously of his time, money and experience in projects for the general good of this section," said President Stephen B. L. Penrose, of the college, in discussing the investiture, "and Whitman is proud to honor him as an example to its graduates as well as to the entire West Coast."

NRA PRICE POLICY NOT TO AFFECT PAPER CODE

Administrator Hugh S. Johnson has announced that the recently announced price policy does not affect approved codes, and will not unless the industries in question approve a price policy change.

The provisions for price structures in the code for the paper and pulp industries are still in full force. No change will be imposed unless some adjustment is worked out in negotiations with the interested Code Authorities.

GUMMED PAPER TAPE DEFINITION REVISED

A revision of paper regulations, Series 1, which restricts the definition of gummed paper tape as used in connection with the levy of compensatory taxes on paper, has been issued by Acting Secretary of Agriculture Rexford G. Tugwell, and approved by President Roosevelt, it was announced today by the Agricultural Adjustment Administration. The revision is effective as of December 1, 1933.

Originally the series defined gummed paper tape, subject to the compensating tax of 4.06 cents per pound weight on first domestic processing, as that less than two inches in width. The revision restricts this definition to mean "gummed paper tape, commonly known as parcel or package sealing tape, one surface of which is covered with gum or other adhesive materials; made from paper of more than 25 pounds weight basis and not more than 80 pounds weight basis (25 inches by 36 inches — 480 sheets to the ream before gumming) having a tensile strength of more than 25 pounds pull to finish width; processed for ultimate distribution in ribbon form, more than one-half inch but less than 2 inches in width, in rolls from 2 inches to 9 inches in diameter, including cores; with perforation or couponing, if any, not less than 12 inches apart."

The revised definition eliminates by its terms telegraph tape, gummed labels, stay paper and veneer tape and tapes for uses other than sealing of parcels and packages, from payment of the compensating tax.

ADVERTISING PAPER WITH MOVIES

Reeve T. Watson, San Francisco, advertising manager of Blake, Moffitt & Towne, coastwide paper jobbers, has made a large number of talks before service clubs, schools and other groups during the past four years explaining a motion picture showing how the Oxford Paper Co. manufactures paper at its mill at Rumford, Mass., and he believes that this method of publicizing paper has brought friends and customers and a warm feeling towards his house. Blake, Moffitt & Towne handle the Oxford lines along the coast.

The film runs about 2,000 feet and tells the entire story of paper making at Rumford, starting with the logging in the woods, showing the plant's hospital, chemical plants and other departments, the logs piled in reserve, the washing, barking and chipping of the logs, then the digester, beaters, Jordan machines, the paper machines, water marking, calendaring and coating. Mr. Watson has shown this at a large number of California cities, including San Francisco, Oakland, Fresno, Ukiah, Stockton, Sacramento and has been north with the film. He talks throughout the running of the film, explaining each step. The complete film takes 50 minutes to run.

At the Lakeside school in Oakland once he talked to 2,700 pupils at once—his largest audience.

Mr. Watson says the interest of the audiences in the picture and the talk is evidenced by the quiet attention given, the sincere applause at the end, the questions asked while the reels are being changed and the fact that usually several people come to the platform after the showing and ask about having the picture shown at other organizations.

In most instances, Mr. Watson takes the district manager of the B. M. & T. office or a local salesman with him. Recently he talked before the Kiwanis Club of San Leandro, Calif., and was accompanied by Frank Unthank, Oakland, manager of the Eastbay division of the firm.

CONTRACT REPORTS TO BE REQUIRED

National Recovery Administrator Hugh S. Johnson recently announced his approval of a request by the Code Authority of the paper distributing trade for leave to require from members of the trade reports giving:

1. Details of all contracts with buyers with respect to which any member proposes to claim exemption under a provision of the code exempting bona fide contracts in existence on the effective date of the code; and,

2. The details of all contracts which state delivery in cases where the contract price shall for any reason fall below the filed price or replacement cost of such members.

Approval of the above requirements was given on representation by the Code Authority that protection of the members of the trade made it essential that full information regarding contracts, valid or otherwise, be available to the various regional secretaries in order to afford a means of verifying claimed exemptions and prices which appeared to be in violation of the accounting and sales provisions of the code.

CALIFORNIA BOX PLANT MAKING HEADWAY

A comparatively new concern, the California Container Corporation, is employing 75 men and women and running two shifts in its big new $200,000 plant in Emeryville, Calif., manufacturing corrugated shipping containers. Business is very good with the company, says Dalt Hand, sales promotion manager, and they are selling their corrugated cases to a growing diversified list of industries.

C. J. Munce is president of the company and the sales manager is Wil Evans, formerly with Fibreboard Products, in Oakland. A. F. Knaggs, superintendent of the plant, has been superintendent of box plants in the north and Mr. Hand formerly was with the Container Corporation of America in Chicago.

Mr. Hand says their shipping cases are made of pure sulphate kraft. The plant occupies 70,000 square feet and is in the building formerly occupied by the Rheem Mfg. Co. Because of the rush of business it has been necessary to store some of their raw material in the Encinal Terminals in Alameda.

COAST PAPER PRODUCTS

Lists of products made on the Coast by several leading companies of their kind arrived in our office too late for inclusion in our Annual Review & Statistical Number, so are given here to complete the summary of products made by prominent western concerns.

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HAWLEY PULP & PAPER CO.
Oregon City, Ore.

Products

Newsprint—
- Standard shade and blue white Rolls and sheets, all grades

Poster Paper
Railroad Manila
Drawing Manila
- Standard colors

Sulphite Wrapping—
- Cheviot in blue, green, orange, red, brown and gray
- Meat wraps in bleached manila and Cheviot colors
- Tailors pattern in black and green
- Bakers' Manila
- Macaroni Papers

Sulphite Screenings
Corrugated Screenings
Deciduous and Soft Fruit Wrappers
Tissue Paper, bleached and unbleached
Cheviot Tissues, blue, green, orange, red and tan.
Cover Paper, ten fast-to-light colors
Towels, interfolds and rolls
Grocery Bags
Kraft Wrapping Paper, No. 1 and No. 2

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PACIFIC WAXED PAPER CO.
Seattle, Wash.

Products

Bread Wrappers, plain and printed
Household Cutter Rolls
Waxed Carton Wrappers
Lettuce and Vegetable Crate Liners
Transparent Cake and Cookie Wrappers
Butcher and Packers Waxed Paper
General Line for Cracker and Biscuit Companies

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JOHNS-MANVILLE, Inc.
San Francisco

Products

Building Papers—
- Asphalt Saturated Felts — Asphalt Saturated Rag Felt, No. 10, No. 15, and No. 30.
- Asphalt Saturated Sheathing
- Kraft Sheathing
- Rosin Sized Sheathing Paper
- Deadening Felt—¾-lb., 1-lb., 1½-lb. and 2-lb. per sq. yd.
- Blue Plaster Board

Roofing—
- Asphalt Roll Roofing Smooth Surfaced; light, medium and heavy weights, with trade names: Service, Planet, and Pilot
- Slatekote Roll Roofing
- Asbestos roll roofing

Composition Shingles—
- Slatekote shingles

Asbestos Paper and Millboard—
- Flat Asbestos Paper in various widths and weights
- Corrugated Asbestos Paper
- Flat Sheets in various grades and thicknesses

Pipe Coverings—
- Asbestocel Pipe Covering
- Asbesto-Sponge Felted Pipe Covering
- Wool Felt Pipe Covering

WESTERN WAXED PAPER INCREASING FACILITIES

Western Waxed Paper Co., Portland, Ore., will shortly erect a single story addition to the plant. This addition, 100 by 150, of reinforced concrete will be used largely for the storage of manufactured products, giving more room in the factory for manufacturing operations and placement of machines. The addition is estimated to cost $15,000. E. C. Bogren, manager, has been ill in hospital, but is now well on the way to recovery.

Western Waxed Paper Co. has enjoyed an increasing volume of business for some months. The plant has been pressed to fill some orders. "Our sales of building paper especially have shown a splendid increase during recent months," said C. L. Dilling, sales manager. "This, to us, indicates that building must be expanding, though we are willing to admit that the trade likes our product very much."

COAST MAN NAMED ON FOLDING BOX CODE

The National Recovery Administration has announced its approval of C. S. Rutherford, Fibreboard Products, Inc., San Francisco, Calif., as a member of the Code Authority for the folding paper box industry.

Mr. Rutherford recently was selected to fill the one vacancy left on the Code Authority for a representative of Pacific Coast manufacturers. He will serve for one year.

PARCHMENT NEWS

W. J. Gray, San Francisco, Pacific Coast manager for the Paterson Parchment Paper Co., and his assistant, William G. Batson, hope they don't play "Oakland Bridges Falling Down" next year when steel work on the gigantic San Francisco-Oakland Bay Bridge reaches Rincon Street, where their plant is located, for the San Francisco approach to the bridge is going right over the top of their property, 100 feet up. A ramp for trucks is to lead from Rincon Hill down into Harrison Street near their location.

The Paterson-Pacific Parchment Co., also located at the Rincon Street establishment, recently took out group insurance for its growing family of employes. O. V. Dutro, president of the Paterson-Pacific, went to the Stanford Hospital in June for a minor operation.

NEWSPRINT IMPORTS

Imports of newsprint into the United States during March, 1934 totaled 168,838 tons. Finland shipped us 5,135 tons; Germany 692 tons; Norway 897 tons; Sweden 5,155 tons; Canada 156,702 tons; Newfoundland 257 tons.

In April total imports were 196,489 tons, of which Finland sent 5,021 tons; Germany 549 tons; Norway 1,520 tons; Sweden 7,925 tons; Canada 179,186 tons and Newfoundland 2,278 tons.

PMC BUYS COAST CASEIN PLANT

On May 21, Paper Makers Chemical Corporation acquired Universal By-Products Co. of San Francisco, Calif., largest producer and dealer in casein on the Pacific Coast. This company operates a large casein manufacturing plant at Los Angeles, and also acts as distributing agent for the casein produced at the various creameries at which this company was instrumental in installing plants and supervising products.

Universal By-Products Co. has been owned and operated by John R. Spellacy. It is now incorporated under California laws with the same officers and directors as Paper Makers Chemical Corporation with Mr. Spellacy joining PMC as manager of casein operations on the West Coast. All buying of casein will be done on the West Coast in the name of Universal By-Products Co. for which Paper Makers Chemical Corporation will become sales agent. The plant is at 1744 Albion Street, Los Angeles; the main office address is 214 Front Street, San Francisco.

ST. HELENS STATEMENT FAVORABLE

The recently issued balance sheet of the St. Helens Pulp & Paper Co. as of December 30, 1933, shows but little change from the previous year's report. The chief difference is in the value of the plant, property and equipment, which declined $949,853, while the total assets and liabilities declined $887,835 from the 1932 report.

There are outstanding 199,934 shares of $10 par common stock. Dividends have not been paid since October 15, 1931.

Bondholders of the company last year entered into an agreement whereby the sinking-fund payments due September 9, 1933, and all subsequent sinking-fund payments were extended and deferred for a period of four years from the date payments become due.

The balance sheet, compared with 1932, tells its own story, as follows:

	1933	1932
Assets		
Plant, prop., eq: net	$2,911,878	*$3,861,731
Cash	249,675	247,170
Accts. and notes receivable	251,533	199,277
Inventories	365,455	306,934
Cash value life insurance	22,617	17,905
Investments	23,147	26,000
Deferred charges	50,841	103,965
Total assets	$3,875,147	$4,762,982
Liabilities		
Com. stock—$10 par	$1,999,340	$1,999,340
Accounts payable	75,830	69,332
Taxes accrued	35,507	†34,870
Wages accrued	21,304	----------
Bond interest accrued	10,156	15,876
1st mtg. bds, due 1941	625,000	700,000
Depreciation reserve	‡	798,368
Capital surplus	1,031	----------
Earned surplus	1,106,979	1,145,196
Total liabilities	$3,875,147	$4,762,982

*Before deducting depreciation reserve.

†Comprises total wages and corporate taxes accrued.

‡Depreciation reserve in 1933 amounted to $974,548.

EQUIPMENT MAKERS' CODE APPROVED

A supplemental code for the beater and jordan and allied equipment subdivision of the machinery and allied products industry has been approved by Administrator Hugh S. Johnson. The supplemental code became effective May 25.

A 40-hour maximum work week is prescribed. Minimum wages are: 32 cents per hour in the South, and in the North 40 cents in cities of over 50,000 population, 38 cents in cities of from 10,000 to 50,000, and 36 cents in cities of 10,000 and under.

The code is approved with a stay, pending the administrator's further order, of the waiting period between the filing with the Code Authority and the effective date of price lists and terms and conditions of sale.

The approval also stays, pending submission to the Administrator of satisfactory evidence concerning distribution of products, an article which would prohibit selling through any distributor who fails to agree to resell in accordance with the Reasonable Cost, Price Lists, and Trade Practices provisions of this Code.

The industry employed about 900 persons in 1929, 454 in 1932 and 583 in 1933. The code is expected to increase the number to about 735. A payroll increase of perhaps 9 per cent is expected.

C. I. P. CO. REPORTS ON 1933 OPERATIONS

The report of the Canadian International Paper Co. and subsidiary companies for the year ended December 31, 1933 shows an increase in production of newsprint and pulp over 1932, but discloses a net loss of nearly four million dollars.

Production of the mills controlled by the company totalled 544,373 tons of newsprint and 141,111 tons of bleached sulphite pulp during 1933, as compared to 493,433 tons of newsprint and 119,251 tons of pulp during 1932.

In spite of unfavorable newsprint prices earnings showed some improvement during 1933. Consolidated net revenue including other income (of which $337,112 was profit on bonds redeemed) amounted to $4,678,537 which was more than enough to cover interest requirements totalling $3,541,401 on the first mortgage bonds of the company and prior liens, including obligations of subsidiaries, plus the $506.-116 of accumulated unpaid dividends for the year on the 5% Preference Shares of International Power and Paper Co. of Newfoundland, Limited, which by their terms became cumulative on January 1, 1933.

After all charges, including interest on junior bonds (all owned by International Paper Co.), depreciation, depletion, etc., there was a net loss for the year 1933 of $3,912,831. In addition $1,865,080 was transferred from profit and loss account to apply against the company's investment in the stock of Newsprint Bond and Share Co., making the total charge against surplus $5,777,-911. As surplus at December 31, 1932 was only $46,981, there was a deficit of $5,730,930 at the end of 1933.

During 1933, $2,170,000 of subsidiary bank debt was paid off. Funds for this purpose came for the most part from realization of inventories.

NEW PULP MILLS IN NORTHERN U.S.S.R.

A new mill for the manufacture of kraft pulp with an annual capacity of 16,000 tons, is now under construction at Archangel. The raw material will be obtained from the waste products of the lumber mill near-by. The pulp will be used for the manufacture of heavy paper.

Plans have also been completed for the construction of four large woodpulp combines in the Northern region to be located at Archangel, Vzvoz, Onega, and Kotlas. Each of these mills will have a capacity of 100,000 tons of cellulose a year and will be equipped with the most modern machinery. At present there exists only one kraft cellulose mill in the U.S.S.R., with a yearly output of 2,500 tons.

RELOGGING PULPWOOD

The Pulp Division, Weyerhaeuser Timber Co., Longview, Wash., is inaugurating an interesting re-logging project designed to make available to the pulp mill white fir and hemlock logs from 6 inches up in diameter, but which are now left on the ground, or standing and either killed or destroyed by fire. It is estimated that in mixed species stands from 10,000 to 15,000 feet per acre may be salvaged by this method, most of the wood running from 6 to 18 inches in diameter and probably averaging 10 feet long.

The project involves the use of light diesel tractors, light arches and light drums. Logs are bucked on the landing, then loaded crosswise on flats by a light, rapid slide loader. The logging is being done just after the main logging operation has gone over the ground, but before the area is burned.

Annually a tremendous volume of hemlock and white fir pulp wood is knocked down and destroyed in the average logging operation in the Douglas fir region. While neither wood is lacking in quantity in the larger logs, the working out of an economically feasible method of utilizing the small logs will vastly widen the wood supply field for the pulp and paper mills.

STAINLESS STEEL

(Concluded from page 9)

the sulphite industry, and although these alloys are not cure-alls for all the corrosion problems in this industry, they are under many conditions very resistant to the corrosive effect of calcium bi-sulphite liquor. We are sure the steel companies participating in the production of these special alloys are ready and willing at all times to cooperate in conducting tests, recommending fabrication and heat treatment so as to insure the selections of the proper alloys and determine their feasibility for the different types of application.

BONNEVILLE DAM PULP STUDIES

J. G. Kelley, consulting engineer of Portland, is now engaged in making a survey of the pulp and paper mill possibilities of the power to be developed by the Bonneville Dam. This study will be made a part of the report of the Bonneville Dam Commission.

PMC OPENS SEATTLE BRANCH OFFICE

The Paper Makers Chemical Corporation, which is well-known to the paper trade throughout the country, has for some time been actively interested in the sale of heavy chemicals for industrial plants, soaps and soap powders for use in institutions and buildings, and a general line of cleaners and chemicals for dairies and bottling plants. Recently they have placed a stock of these materials in Seattle at the Seattle Transfer & Storage Co. in order that they may be of better service to those in need of these products in this district.

The Industrial Chemicals Department of the Paper Makers Chemical Corporation has, during the last few years, been extensively enlarged; and due to the long experience of the company in the chemical field, they are able to supply the background of technical experience which assures the trade of products carefully prepared with consideration of their chemical and utilitarian purposes.

Mr. C. E. Smith will handle the sales of the Industrial Chemicals Department in Seattle under the supervision of the Portland plant, of which Mr. A. C. Duncan is manager.

GRIGGS OF HOOKER TRANSFERS TO TACOMA

H. S. Griggs, Jr., who has been in the Los Angeles office of the Hooker Electrochemical Co., has recently transferred to Tacoma, where he is connected with the sales department.

CHINESE NEWSPRINT MILL PROPOSED

Th Nanking Ministry of Industry is reported proposing the establishment of a newsprint mill in Chekiang, with capital of $5,000,000. Plans are expected to be completed in December.

WEYERHAEUSER CLUB COMPLETES FIRST YEAR'S PROGRAM

With 125 members present, the Weyerhaeuser Club brought to completion its first year of activity with a banquet in the clubroom at the plant cafeteria last month.

Dinner was followed by entertainment, and after the introduction of officers, talks were given by the heads of the various departments, including R. B. Wolf, manager of the pulp division.

CODE APPROVED FOR PAPER FELT INDUSTRY

The code of fair competition for the paper makers felt industry became effective May 21. Approval was given with the provision that the prescribed waiting period between the filing and effective dates of revised price lists or revised terms and conditions of sale would be stayed pending a further order.

The code establishes a 40-hour week with certain exceptions. The limitation on hours does not apply to managerial and supervisory employees receiving $35 or more a week and a 10 per cent tolerance is provided for engineers, electricians, firemen, shipping and outside crews, provided that they be paid time and one-third for all hours in excess of 40.

The minimum wage established is 35 cents an hour.

The industry is made up of eleven concerns which in 1933 did a business of approximately $9,000,000. In 1929 these same concerns had annual sales of approximately $15,400,000. In his report to the President the administrator stated that there has been a relatively small decline in employment in these mills. In 1929 there were 2,294 employees and in 1933, 1,999.

McNAIR JOINS LONGVIEW LABORATORY

John J. McNair has joined the staff of the Weyerhaeuser Timber Co. pulp division as chemist in the laboratory. He has just graduated from the University of Idaho at Moscow, Ida., with a degree of Master of Science in Forestry.

RAINIER MILL HAS BALL TEAM

The Rainier Pulp & Paper Co., Shelton, has a baseball team entered in the city's twilight baseball league, and is in hot pursuit of the honors in competition with three other company teams in the mill city.

NEWSPRINT CODE AUTHORITY RECOGNIZED

The NRA has recognized the personnel of the code authority for the newsprint industry, as follows: Edgar Rickard, Pejepscot Paper Co., New York; A. L. Hobson, St. Croix Paper Co., Boston; C. K. Blandin, St. Paul; A. R. Graustein, International Paper Co., New York; R. H. M. Robinson, Minneapolis; Wm. A. Whitcomb, Great Northern Paper Co., Boston, and I. Zellerbach, San Francisco.

SELECTION OF CABLE

A new 80-page reference book on "How to Select Insulated Cable" has been published by the General Electric Company. Designated as GEA-1837, the publication covers cable for the transmission and distribution of electric power at normal frequencies, and presents in convenient form the information that is required in determining the cable best adapted for a particular installation.

The more usual applications of cable are covered. The subject of cable economics, not properly within the scope of this book, is touched on lightly to insure that an economic decision will not be based on the price of the cable alone, to the exclusion of other important factors.

Two methods of selecting conductor size are given. The first, a comparatively simple one, covers cable for wiring houses, buildings, small industrial plants, and similar applications. The other method, more detailed, includes 27 tables of current-carrying capacities.

The various types of insulation and finish are described, and tables of thickness are given. Tables of wire gauges and dimensions, sizes of shipping reels, and a bibliography are also included.

JENNINGS NOW WITH GRIFFITH RUBBER MILLS

The Griffith Rubber Mills of Portland, Ore., manufacturers of rubber-covered rolls and rubber specialties for paper mills, announces the addition to its staff of Richard Jennings as assistant general manager. Mr. Jennings is well known in the pulp and paper industry having been in the engineering department of the Crown Willamette Paper Co. at Portland, Floriston and Camas.

Later he was connected with the research and development department of the United-Oliver Filter Co., doing work in most of the Pacific Coast mills. That position took him to the southern kraft field in connection with the development of kraft washing. For the past two years Mr. Jennings has been with the Champion Fibre Co. at Canton, N. C., in the soda and sulphate department, which position he left to become connected with the Griffith Rubber Mills.

DUNCAN RETURNS FROM HAWAIIAN ISLANDS

A. C. Duncan, resident manager of the Paper Makers Chemical Corpn., Portland, Ore., has just returned from a trip to the Hawaiian Islands. He found the paper mill there, that of the Hawaiian Cane Products Co. at Hilo, running six days per week.

U. S. PAPER EXPORTS RISE

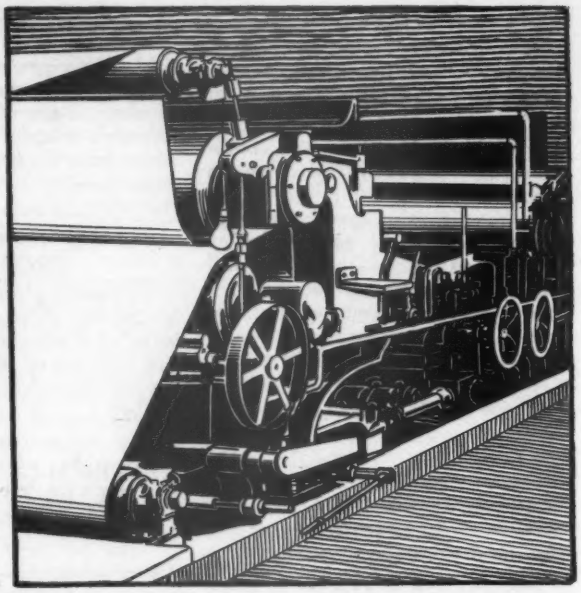
The aggregate value of exports of paper and paper products from the United States during January-March, 1934, amounted to $4,494,992, as against $3,256,501 for the first quarter of 1933—an increase of nearly 40 per cent, but only slightly above the value for the last quarter of 1933. In quantity, also, the 1934 period exceeded that of 1933, exports of newsprint and wrapping paper increasing 80 per cent, writing paper 60 per cent, box boards nearly 30 per cent, and paper bags and over-issue newspapers 20 per cent.

Proportionate increases occurred also in such smaller items as tissues, toilet papers, building papers and boards, bristols, blotting and wall papers. Decreases were confined almost entirely to greaseproof and waterproof papers (30 per cent decline), boxes and cartons (20 per cent), and surface-coated papers.

In addition, there were shipped abroad $1,513,857 worth of paper-base stocks during the 1934 quarter, of which sulphite pulp represented nearly 85 per cent (60 per cent increase over the 1933 quarter); rags and other waste stock, soda pulp and other wood pulp together accounted for the remaining 15 per cent (rags increasing 100 per cent).

Imports of both paper and paper-base stocks apparently were higher than in the 1933 quarter. Newsprint, accounting for 85 per cent of all paper and board imports and nearly one-half of all pulp and paper imports, totaled 412,655 long tons valued at $15,736,612—an increase of 35 per cent in volume and of 15 per cent in value.

Woodpulp receipts totaled 382,885 tons valued at $15,012,976—an increase of 47 per cent in volume. The average value per ton shows a decided increase in practically all paper-base stocks; paper and board imports also show a like tendency, except for newsprint, which dropped to an average of $38 per ton from $45 in the 1933 quarter.



Felts that live to a "ripe old age"---

Any felt that will remove water faster and outlast the general run of felts merits your consideration. If you can reduce your felt cost you can add to your profits. A dollar saved is a dollar earned . . . and in the course of the year's production Orr Felts will save many dollars.

Highly specialized manufacturing skill, years of experience, knowledge of mill problems and a real desire to lead the field have given Orr Felts a quality and degree of excellence that stand back of their claim to superiority.

Pacific Coast Representative: GEO. S. MEDDIS
1650 No. Point St., San Francisco, Calif.

The Orr Felt and Blanket Co.
PIQUA, OHIO

ORR FELTS

B. C. MILL RAISES PAY

Powell River, Ltd., has announced a general increase in salaries and wages to go into effect as from May 1. Employees receiving higher wages will be given a 10 per cent increase; those drawing a lower income will get 12½ per cent.

Announcement of the increase was made by A. E. McMaster, general manager and vice-president, and it was taken as an indication that the newsprint industry on this coast at last sees signs of improved conditions.

Powell River Co. was one of the last of the large newsprint companies on this continnent to reduce wages. The first cut was made in January, 1932. At that time it was stated that as soon as conditions justified wages would be returned to the old level.

Mr. McMaster pointed out that the newsprint industry is one of the few major industries that has not yet received any benefit from the general raising of the commodity price level. In order to maintain its plant at full capacity, the Powell River Co. accepted during 1933, a large amount of low-price tonnage, hoping for improvement in prices this year. So far, this has not materialized; newsprint prices, instead of going up, as expected, have sunk below the 1933 level, and no substantial improvement is expected during the present year.

"We are convinced, however, that the gradual improvement in general world conditions, which is now being manifested, will reflect itself in newsprint prices next year," said Mr. McMaster. "We appreciate the loyalty of our workers and their fine cooperation during the stress of the last two years and the directors decided at their last meeting to increase the rates of pay in anticipation of the expected price advances."

Powell River Co. is now producing about 640 tons of newsprint a day. The mill is the largest newsprint producer on the coast and one of the largest individual newsprint mills in the world, with seven machines in operation, utilizing 72,000 horsepower, and with 1,400 men in regular employment.

CELLULOSE PRODUCTS MAY REPLACE CANADIAN NEWSPRINT PRODUCTION

Canadian pulp and paper interests need have no fear of competition from potential newsprint output from the southern states, where southern pine is being developed for pulpwood, if laboratory technicians in Canada progress at the rate they have in the past, according to G. G. Piche, chief forester of the department of lands and forests in Quebec.

Holding up a piece of cellophane, Piche declared that if technicians in Canada could carry on with experimental work such as had led to the discovery of that by-product of pulp, the Canadian pulp and paper industry could safely let other countries make newsprint while Canada turned out substitutes for many articles of import.

Piche foresaw the day when such products as wool, cotton and many others now being imported into Canada would be replaced by the by-products of pulp as a result of continued research on the part of Canadian experts.

CODE COUNCIL FOR PAPER BOX INDUSTRY ORGANIZED

A code council to work on coast problems of the setup paper box industry has been organized and is working through the Pacific Coast Paper Box Manufacturers Association. On this council are F. E. Kewell of the Western Paper Box Co., Oakland; A. L. McSorley of the Acme Paper Box Co., San Francisco, and William J. O'Donnell of the Fleishhacker Paper Box Co., San Francisco. Mr. O'Donnell is chairman.

The coast folding box plants are being represented in code matters by C. S. Rutherford of the Philadelphia office of Fibreboard Products, Inc.

UNITED STATES IMPORTS OF PULP WOOD AND WOOD PULP BY COUNTRIES OF ORIGIN

APRIL, 1934

Compiled by the U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce
(Figures Subject to Revision.)

PULP WOOD

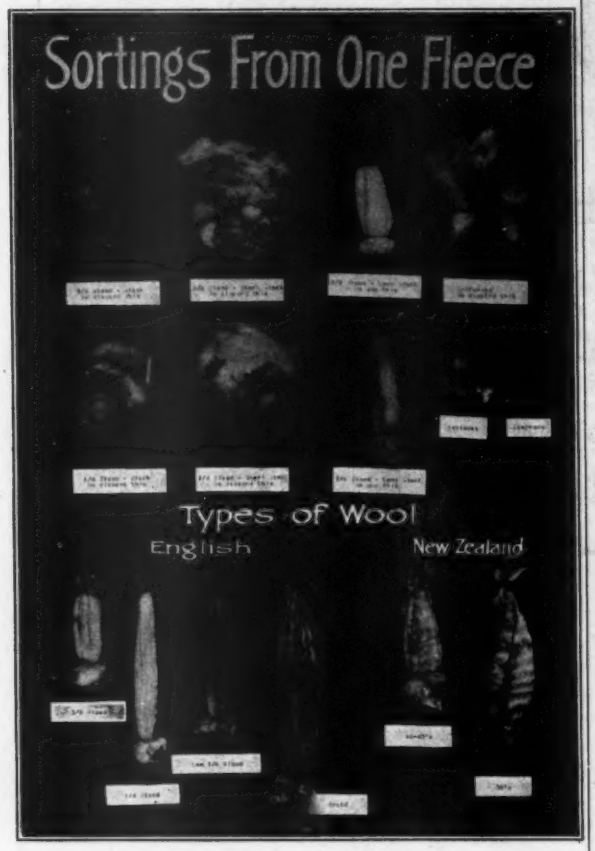
	Rough				Peeled				Rossed			
	Spruce		Other		Spruce		Other		Spruce		Other	
Countries—	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars
Canada	5,404	25,446	705	2,820	16,673	110,124	4,265	18,101	50	446	.....	.....
Total	5,404	25,446	705	2,820	16,673	110,124	4,265	18,101	50	446	.....	.....

WOOD PULP

	Mechanically Ground				Chemical									
	Unbleached		Bleached		Unbleached Sulphite		Bleached Sulphite		Unbleached Sulphate (Kraft Pulp)		Bleached Sulphate		Soda Pulp	
COUNTRIES	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
Austria	.....	.....	.....	.....	.....	.....	49	2,596	.....	.....	.....	.....	.....	.....
Czechoslovakia	.....	.....	.....	.....	349	15,352	961	44,084	.....	.....	.....	.....	.....	.....
Estonia	.....	.....	.....	.....	223	9,076	.....	.....	.....	.....	.....	.....	.....	.....
Finland	50	1,157	.....	.....	8,247	309,463	1,751	79,902	2,828	77,906	127	6,159	.....	.....
Germany	.....	.....	.....	.....	1,692	67,136	3,151	146,991	.....	.....	.....	.....	.....	.....
Latvia	.....	.....	.....	.....	500	18,021	.....	.....	.....	.....	.....	.....	.....	.....
Lithuania	.....	.....	.....	.....	123	3,637	.....	.....	.....	.....	.....	.....	.....	.....
Norway	.....	.....	.....	.....	775	32,202	2,493	142,916	486	17,986	.....	.....	.....	.....
Poland and Danzig	.....	.....	.....	.....	.....	.....	.....	.....	206	3,829	.....	.....	.....	.....
Sweden	250	4,031	.....	.....	6,797	240,098	2,859	133,721	6,689	228,277	924	71,784	.....	.....
Canada	12,417	228,639	.....	.....	5,763	202,246	14,957	883,246	3,346	122,031	3,219	243,199	369	16,570
Total	12,717	233,827	.....	.....	24,469	897,231	26,221	1,433,456	13,555	450,029	4,270	321,142	369	16,570

NOTE—Imports are "Imports for Consumption."

• SEVENTY-SIX YEARS OF EXPERIENCE MAKE A WORLD OF DIFFERENCE •



Nine different gradings . . .

. . . two we use . . . seven we reject

Here's what happens to a raw fleece when it comes to our sorting room—nine different gradings are made, and of these nine we reject seven as unfit for a Hamilton Felt.

The reason all goes back to the seventy-six years of experience.

This experience has shown that certain fibres of the fleece are best suited for the making of felts. The others are not.

And because our reputation is woven into every felt we can't take chances.

For a Hamilton Felt must be one that's going to give you not just average service, but better-than-average if it's within our power to do so. The best is none too good.

You'll see the difference between a Hamilton Felt and an ordinary one the first time you put a Hamilton Felt on your machines—you'll see it in the check sheets, in increased production, in less stretching and adjustments. Over the year you'll see it in fewer felt purchases. Try a Hamilton Felt.

•

SHULER & BENNINGHOFEN

HAMILTON, OHIO

Miami Woolen Mills, *Established 1858*

Hamilton Felts

NATIONAL DYES

NATIONAL

DYES FOR BOND PAPERS

A select group of dyes particularly suitable for the coloring of bleached pulps and rag stocks • Good fastness and minimum two-sidedness are their outstanding features • Your copy of Color Card No. 200 showing this line may be secured through our nearest branch.

•

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